JUNE
12
1959

PETROLEUM WEEK

A McGRAW-HILL PUBLICATION

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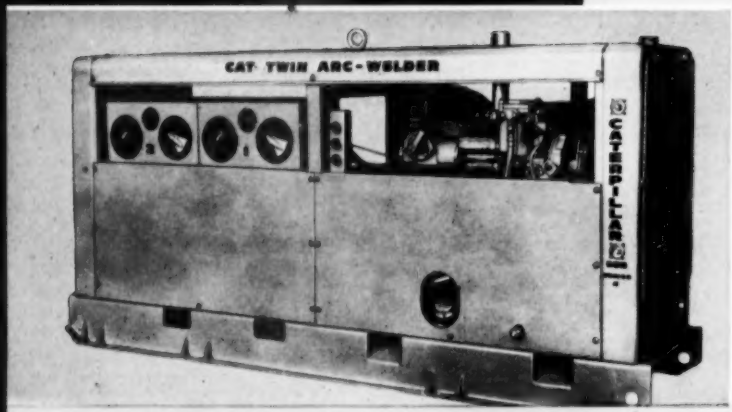
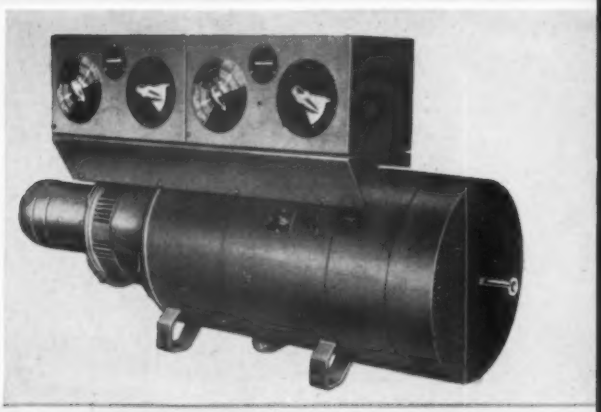
STEVENS RICE

engine power
BY CATERPILLAR

A new twin arc-welder that costs less, weighs less, takes up less space



Powered by the Cat D311 (Series H) Engine the new, compact Twin Arc-Welder has ample power and capacity to handle two 300-amp. arcs. It costs less and has faster recovery. Operators know it has hot arc on contact with no waiting for the machine to come up to speed. Operation is smoothly uniform and control is completely automatic.



Reliable Cat power drives twin Lincoln welding generators and features two independent control panels permitting different welding operations at the same time. The single unit, two-arc package is only 35 inches wide to permit placing two side by side on the average truck bed—enough power to supply four men.

By powering this new electric arc welder with a D311 (Series H) Engine, Caterpillar has improved on the performance of the D315 powered welder. It's 1,300 pounds lighter, 20 inches shorter, 3½ inches lower and 4½ inches narrower—a lighter, more compact, more transportable unit that can meet the most exacting pipeline schedules and the toughest terrain. Big news, too, is its lower purchase price.

The new Cat Twin Arc-Welder combines two welding generators in one frame with dependable Caterpillar 4-cycle power. Dimensions above are for the skid base arrangement with base type fuel tank. Also available is four-wheel, heavy-duty running gear with springs and parking brake.

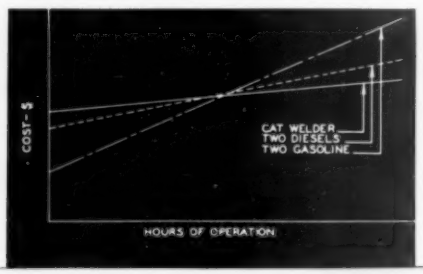
THESE FEATURES MEAN PROFITABLE WELDING FOR YOU:

1. Simultaneous operation of two arcs with the two 300-amp. Lincoln welding generators powered by the Cat D311.
2. Independent generator controls allow welding at different voltages and amperages or polarity at the same time.
3. 600 amp. for automatic welding available by a simple connection change.
4. The Cat D311 Diesel can use a wide range of readily available fuels including low-cost grades.
5. Ample power for four welders (two Twin Arc-Welders) easily transported on one small truck.
6. Large capacity 3 KW exciter provides extra power for auxiliary tools.

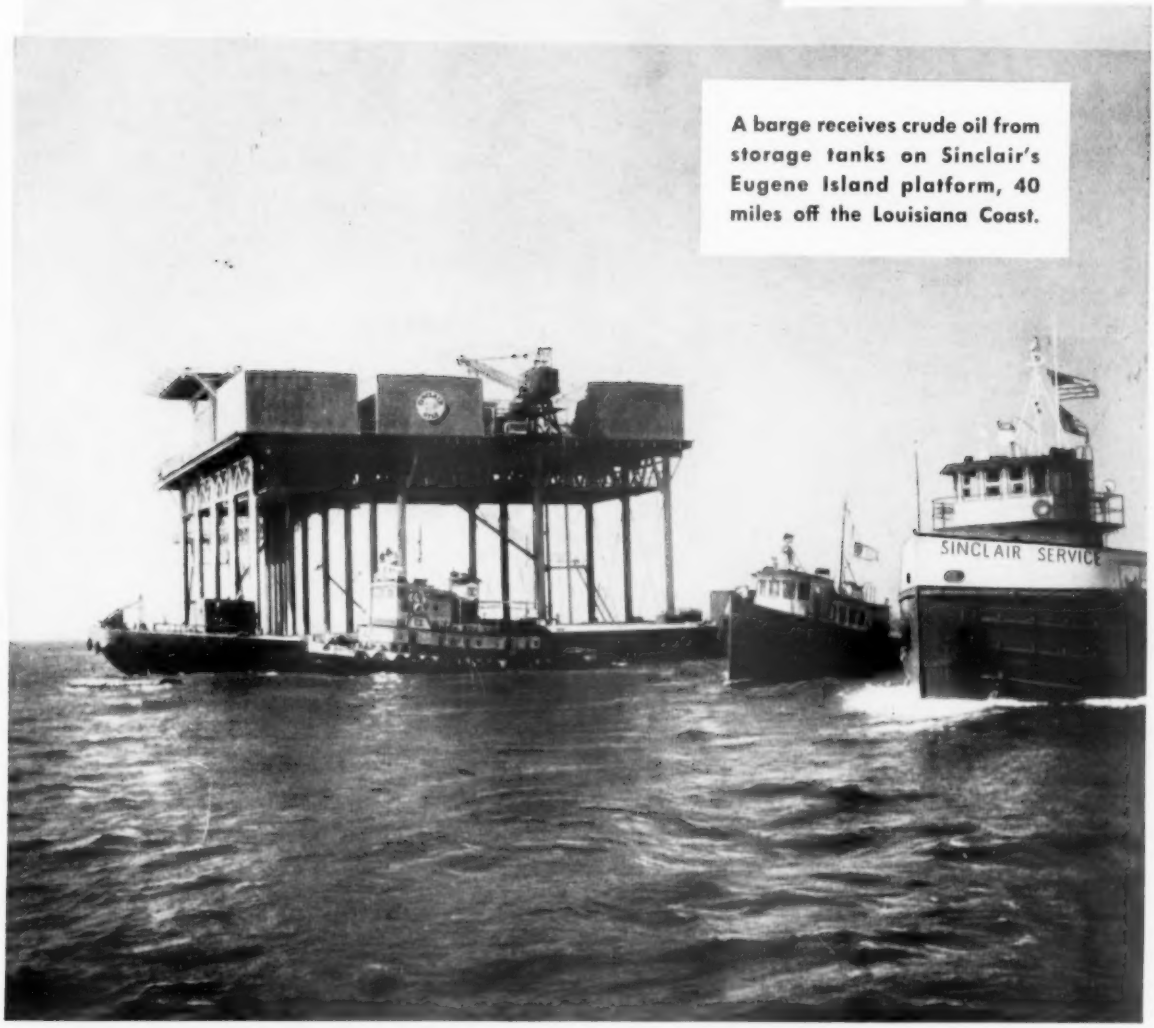
Engine Division, Caterpillar Tractor Co., Peoria, Ill., U.S.A. Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

NO FREEZING even when two rods work at capacity. Cat Diesels have the "lugability" to keep current up.

LOWER OPERATING INVESTMENT over life of a welding unit is important. A Twin Arc-Welder saves money over other makes.



CAT PARTS AVAILABILITY is in line with superior dealer service. More than 400 domestic Cat parts stores.



A barge receives crude oil from storage tanks on Sinclair's Eugene Island platform, 40 miles off the Louisiana Coast.

The Case of the Disappearing Derricks

Out in the Gulf of Mexico, some oil drilling derricks have disappeared. Offshore platforms look strangely bare. What's going on? Is the search for oil stopping in this promising area? Hardly. Actually, disappearing derricks mean that some of the promise is being realized; *oil has begun flowing to market.*

When the derrick comes down on a Sinclair Oil & Gas Company platform, it marks the transition from oil exploration to oil production. On three platforms which Sinclair operates for itself and three other companies, there now are a total of 10 oil wells in production and 4 gas wells shut in.

In relation to Sinclair's total crude oil output, *which reached a record high in 1958,* present production from 10 offshore wells is the proverbial drop in a bucket. But the start of production on this new oil frontier indicates that offshore oil will one day contribute importantly to the company's raw material supply and is another step forward in Sinclair's production expansion program.

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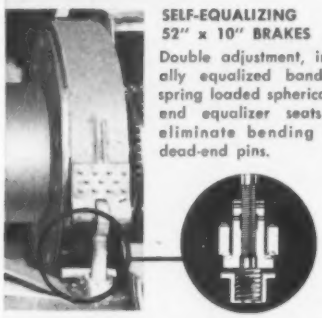
D964-9



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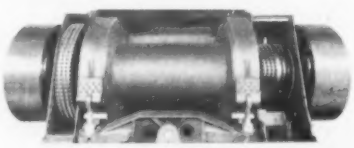
52" x 10" BRAKES

Double adjustment, individually equalized bands have spring loaded spherical dead-end equalizer seats which eliminate bending of the dead-end pins.

EXTRA LARGE BALANCED DRUM
FAWICK VC CLUTCHES

A 29" diameter by 53¼" long drum provides three wrap spooling when hoisting 90-foot stands with a 10 line reaving system using 1¼" wire line and LeBus grooving. Hi- and lo-drum clutches are identical 38VC1200 Fawick Ventorque. A splined clutch is provided on the lo-drum side for emergency use.



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INSIDE *Slant*

FRUITS OF CONSERVATION

Through the orderly process of law and a sound foundation of engineering technology, the conservation program in Texas has progressed into a workable actuality.

This was the conclusion of E. O. Thompson, chairman of the Texas Railroad Commission, in his talk before the World Petroleum Congress in New York last week.

There is no better evidence of the fruits of conservation than figures attached to Thompson's prepared speech.

In the 22-year period from 1935-57, Texas produced 17-billion bbl. of crude. Yet proved reserves have remained virtually the same.

During the same 22-year period, gas production totaled 52.6-trillion cu. ft., yet gas reserves have soared to 115-trillion cu. ft.

Even more interesting is the fact that daily per-well production in Texas has declined only 1.04 bbl., despite a wide fluctuation in producing days.

In 1935, there were 59,461 wells. Production totaled 378,686,000 bbl., or an average of 17.44 per day for each well.

In 1957, the daily per-well average from 176,705 wells was 16.40. Total production for the year was 1,057,997,000 bbl.

LeRoy Menzing
EDITOR

THIS IS WHAT YOU WANT IN A VALVE

When you are installing valves for water, oil, gas or mud services, you want safe, positive operation at the lowest possible cost. This is what you get in the Cameron Gate Valve.

This unusual valve employs the Cameron rotating seats, one of which is visible in the picture above. Each time the valve is operated, these rotating seats, on each side of the gate, turn up a new sealing surface. Valve life is extended tremendously and operating cycle cost is reduced to the lowest figure of any valve in similar service offered today.

Cameron Gate valves are available in sizes from 2 to 6 inches and pressures from 960 to 15,000 psi. Next time you order, get what you want – Safety, Service and Top Economy – get Cameron Gate Valves.

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DEPT/Opinions

Views That Make News . . .

"Taken altogether, the question of oil imports is one of many facets and deep complexities, but one thing is obvious. The present government program . . . constitutes one of the deepest and most dangerous intrusions of politics into the affairs of . . . the industry . . . that we have yet had to face."

—W. K. WHITEFORD
President
Gulf Oil Corp.

"Our energy needs 16 years from now will be practically double. Oil and natural gas alone will have to supply more than 30% more energy than is derived now from all sources combined. This doesn't mean that other fuels are dying out—far from it. But only petroleum has the capacity to grow fast enough to keep ahead of the snowballing demand for energy."

—KERRYN KING
Vice-President
Texaco Inc.

"Unfortunately, the very same rugged individualism that has sparked our industry's growth and progress has also sparked internal strife and bickering. Fortunately, the serious consequences of such disputes are having sobering effects on the various segments of our industry. For example, instead of shouting and finger pointing, more and more suppliers and their jobbers and retailers are sitting down together and seeking solutions to common problems. We must do more of this if we hope to avoid government intervention and if we want to earn public confidence and good will."

—L. W. MOORE
President
American Oil Co.

. . . and Letters

Dear Sir:

Some months ago you published a letter from me relative to the misunderstanding of the time or mileage change on oil that exists between the motorist and his owner's manual.

Now . . . I find that the oil companies are going into a study of the so-called "economy" of long periods of mileage between oil changes [PW—May15'59,p146]. There is one factor, however, that is being overlooked and I am sure will become more evident as time goes on unless something can be done to make the manufacturer and motorists hit a happy medium on oil-change intervals.

Until the advent of this trend in longer periods between oil changes, it was the usual custom to give a full service job, that is lubrication and oil change at the same time. Now I am finding that mileage is being stretched between lubrication services to the point where the customer is beginning to complain of dry battery cells, generator trouble, dry steering sectors, and other complaints too numerous to mention that could have been avoided by service at more frequent intervals. Although we endeavor to give as much free service on the drive as possible, it is only possible to perform some of these services while the vehicle is on the lubrication rack.

By the same token, I am sure that gasolines of all companies are being eyed skeptically by motorists who look at and hear of the unheard-of mileage that is almost guaranteed in the various forms of advertisement of the automobile manufacturers.

We would all profit in various ways —financially, better dealer-customer relations, and better manufacturer-customer relations—when a better understanding on the above situation is reached.

J. M. HURST
West End Gulf Station
Rogersville, Tenn.

Dear Sir:

I was working in the Maricopa (Calif.) oilfields . . . near the Lakeview Well No. 1 when it was drilled in 1910. I have a picture framed in my office . . . of the Lakeview gusher and have kept it all these years as I always prized it very highly . . . You carried a picture of the Lakeview No. 1 [PW—Mar.20'59,p19] . . . I clipped it out to go along with my old original picture.

It [Lakeview No. 1] certainly made a big change in the California oilfields, especially around Taft.

A. J. HARDENDORF
President
Woodson Oil Co.
Lander, Wyo.

PETROLEUM WEEK *will publish reader comments each week. Address letters to LeRoy Menzing, Editor,* PETROLEUM WEEK, *330 W. 42nd St., New York 36, N. Y.*

Where do you fit

in the changing petroleum picture?

records show that 294 refiners have tripled average production—but 160 have succumbed to competition

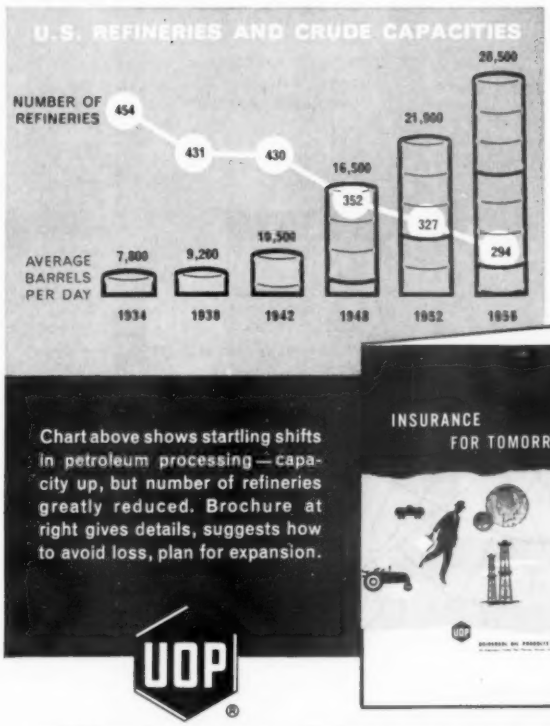

Chart above shows startling shifts in petroleum processing—capacity up, but number of refineries greatly reduced. Brochure at right gives details, suggests how to avoid loss, plan for expansion.

Drastic changes in transportation by road, rail, water and air constantly keep petroleum refiners on their toes. Adding to the complexity of the petroleum refiner's problem are never-ceasing changes in the nature and location of his crude supplies, and of markets for his products.

In this situation there are certain things the refiner can do to avoid losses and capitalize existing opportunities—to utilize his facilities and market potentials to the fullest.

As an aid to intelligent planning, the Economic & Market Research Department of Universal has prepared a bulletin entitled, "Insurance for Tomorrow." It shows how Universal can help coordinate the application of processes to achieve the most economic operation. Send for your copy today. Just fill out and mail the coupon.

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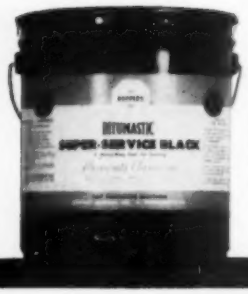

Bitumastic Super-Service Black—excellent heavy-bodied protection for structurals, tanks, equipment, and concrete, too.

Bitumastic No. 50—the thickest protective coating you can buy—and thickness spells long-life in tough service!

Bitumastic Hi-Heat Gray—all the name implies: a special zinc-base coating for stacks, boilers, other hot spots.

Bitumastic Black Solution—a paint-like general maintenance coating *but* with coal tar's unique protective ability.

Bituplastic No. 28—almost equal in body to No. 50, and an excellent weather-resistant coating.

Bitumastic Tank Solution—for potable water tanks and the like . . . imparts no taste or odor.

prevention program around

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Experienced Service
—almost as important as our fine product, you'll get it from our specialists on corrosion.

Bitugloss Aluminum
—used alone, or as a decorative top-coat for Bituplastic No. 28, this coating has amazing gloss-retention.

As with most engineering problems, there's no one, pat answer to all corrosive conditions: that's why Koppers designed the *line* of coatings under the Bitumastic® label. Covering a broad range of cost and protective ability, it is likely that the *one* best solution to your corrosion problem can be found among the coatings in the Bitumastic line.

The common denominator to the protective ability of Bitumastic coatings is coal tar: nature's own "wonder material" that has unique resistance to oxidation and water penetration, common causes of coating system failures. The magical properties of coal tar make a story in themselves, however, and we'll be glad to send you a booklet that describes them more fully.

In fact, if you're not familiar with Bitumastic protective coatings, we'll be glad to send any or all of the literature noted below. Or perhaps you'd like to review your problem with a Koppers representative or an experienced Bitumastic distributor. Just indicate your choice on the coupon below. No obligation, of course.

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That story on coal tar

Bitumastic # 50

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Bitumastic Tank Solution

Bitumastic Hi-Heat Gray

Bitugloss Aluminum

I'd like to discuss my corrosion problem with your man

Good Wells Make Good News

A Monthly Report on Wells That Are Now Worth More

June 12, 1959

Acid treatments are often the most profitable way to improve the permeability and drainage area of a well. Here are four recent examples of effective acid treatments by Dowell.

- **Nolan County, North Central Texas** (Water Injection Well) This open-hole completion was between 6165 and 6359 feet in the Strawn Reef. The pay is a highly soluble lime with good porosity and low, but varied, permeability. Since permeability varies widely in a lateral direction, deep penetration seemed necessary for good results. The Dowell treatment: three 5000-gallon stages of inhibited acid, with rock salt as a temporary plugging agent and a new Fluid Loss Additive (F.L.A.*) for deep penetration. Water injection increased from 326 to 630 bwpd at same injection pressure.

- **San Juan County, Utah** (Old Oil Well) This well had been completed into four sections of the Paradox lime, from 5554 to 5650 feet. Production had declined to about 100 bopd. Dowell injected 28,500 gallons inhibited acid with demulsifiers, surfactants and Fluid Loss Additive (F. L. A.) at about 25 bpm. 492 ball sealers were used in four stages, and 300 pounds of a temporary plug were used in three stages. After clean-up, well made 38 boph.

- **Breathitt County, Kentucky** (Old Oil Well) This open-hole completion was in the fractured, vuggy Corniferous dolomite from 1985 to 2005 feet. Decline rates have been extremely rapid in this field. Formation samples analyzed by Dowell indicated that most production came from vugs and fractures. The oil-bearing formation had a permeability of less than one millidarcy. Dowell recommended Heatblast*. 1000 pounds of magnesium pellets were "fractured" into the pay in two stages. Each injection was followed by inhibited acid with demulsifying and surface tension reducing agents added. A total of 5000 gallons of acid was used. Before treatment, the well produced about 20 bopd. Three months after treatment, production was steady at 80 bopd, pumping.

- **Lea County, New Mexico** (Old Oil Well) Production had dropped in a year from 500 to six bopd. This well, into the Pennsylvanian below 9300 feet, had been treated with 500 gallons of Mud Acid upon completion. After a study of the problem, a two-phase treatment was made. A spearhead of 20 gallons of Freflo* in 2000 gallons lease oil was followed by 2000 gallons Dowell inhibited acid with a demulsifying agent added. Production was boosted from six to 300 bopd.

When you specify Dowell for acidizing, you get the benefit of more experience than you can get from any other service company. For full information, call any of the 165 Dowell service points. In Canada, call Dowell of Canada, Ltd.; in Venezuela, United Oilwell Service. Dowell, Tulsa 1, Oklahoma.

*Dowell Trademark

Services for the oil industry DOWELL

DIVISION OF THE DOW CHEMICAL COMPANY

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Bitumastic Black Solution

I'd like to discuss my corrosion problem with your man

60-Second Summary / WHAT'S HAPPENING IN OIL

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June 12, 1959

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The Supreme Court has ruled in favor of pipeline dividends to shipper-owners. Payments of 7% of total valuation are in keeping with government's 1941 Elkins Act decree, the court held. . . . p. 17

•

Total petroleum imports in the next six months will be nearly 64,000 b/d higher than at present. The new allocations, plus exempted imports from Canada, will boost the total to 1,590,550 b/d, even though most crude allocations east of the Rockies will be lower. . . . p. 15

•

A gas drilling boom is shaping up in California's Sacramento Valley. The reasons are mounting gas demand, a decline in the status of crude, and fast payouts based on relatively low costs. . . . p. 25

•

Research on chemical additives for petroleum products is running at $31-million a year. And while the industry will use 2-billion lb. this year (valued at $617-million), the volume may rise 25% in another five years. . . . p. 44

•

Argentina will open 630,000 sq. mi. for exploration and development permits in August. More than 30 companies are reported to be interested in the new areas. . . . p. 48

•

More crude lines are considering handling natural gas liquids. Trans-Mountain Oil Pipe Line will be the next to join the move, and others are expected to follow based on successful operations so far. . . . p. 52

•

Pollen and spore fossils of plants that flourished millions of years ago may aid in exploration. A Humble Oil & Refining group has catalogued samples from 10,000 wells all over the world. . . . p. 35

•

In addition to tourists, Hawaii may attract more marketers. Demand has been rising about 15% a year. Texaco is ready to add the 50th state to its operations. . . . p. 58

•

Worldwide geophysical activity slipped last year, falling off 7.7% from 1957. Western Hemisphere activity, reflecting a big drop in the U.S., fell 14.2%, but Eastern Hemisphere activity rose 9.7%. . . . p. 34

•

A promising gas "find" in Quebec is bringing an optimistic reappraisal of the St. Lawrence River lowlands. The find is a year old, but new tests are being made. . . . p. 34

Up to the Minute / SIGNIFICANT LATE NEWS

AT-A-GLANCE PETROLEUM WEEK Copyright

June 12, 1959

Venezuela is considering a system for prorating oil production. It has asked the Texas Railroad Commission for loan of an engineer for three to six months to aid the government's study of proration.

Venezuela, faced with financial difficulties, needs maximum production now, says Oil Minister Juan Perez Alfonzo. Eventually, he notes, oil production levels will be "adjusted to the revenue requirements of the nation."

•

Louisiana's natural gas gathering tax was ruled unconstitutional by a state district court this week. The 2¢-per-Mcf. tax, which has been suspended by a legislative order, was declared by Judge Coleman Lindsay of Baton Rouge to amount to "a license tax on the exercise of a right under the lease." Judge Lindsay said that "there is no such thing as a gathering tax." State officials said an appeal will be filed with the state supreme court.

•

A voluntary feature will be added to the mandatory imports control program. Refiners will be asked for voluntary reports on imports of exempt Canadian crude received by pipeline. They now run about 110,000 b/d.

Importers no longer will be required to name ports of entry for foreign oil. The Oil Imports Administration is dropping that requirement in a move to reduce red tape caused by changes in destinations of tankers enroute.

•

New Mexico's crude production next month may run about 8,000 b/d below the current level. That's the estimate of the Oil Conservation Commission, which forecasts July output of 286,700 b/d. The commission this week reduced the unit allowable for July in the southeast fields by 1 b/d to 35 b/d, but retained the 54 b/d unit allowable in the northwest. Production will be lower in the latter area because of penalties resulting from rising **gas-to-oil ratios.**

And despite growing surplus inventories, the Bureau of Mines looks for higher crude demand next month. While demand for Texas crude was estimated at 2,650,000 b/d for July, unchanged from June, the bureau said demand for Oklahoma oil would rise by 5,000 b/d, and a similar gain is expected for Kansas crude.

•

Recently-discovered major gas fields in British Columbia will soon get pipeline outlet to market. Westcoast Transmission Co. plans to extend its system from Ft. St. John 15 mi. northwest to the Jedney field by the coming winter heating season. Later, it will build a 200-mi. big-inch extension north to the big new gas discoveries at Kotcho Lake and Petitot River (PW—May29'59,p25).

•

Italy's ENI reports an oil show at its first offshore test in Sicily. The test, drilled from a mobile platform, had the show at 10,000 ft. offshore from the Gela field.

MR. H. S. M. BURNS,

President and Chairman of the Executive Committee of the Board of Directors, Shell Oil Company

". . . no factor is more essential . . ."

"From exploration through marketing, the success of oil industry operations depends largely on what the military men call logistics—making sure that what you want is where you want it when you want it.

"Most of us oil men in the United States take it for granted that such matters can be easily handled. Getting supplies and equipment ordinarily involves no more than reaching for the telephone. The reason is that the suppliers do such a good job of maintaining warehouses and effecting deliveries. I suspect that many of us become so used to this that we don't appreciate it properly.

"I learnt appreciation the hard way some years ago when I was involved in developing new oil fields in nearly inaccessible tropical jungle, hundreds of miles from the comforts of civilization. We surely missed being able to handle our supply problems by the phone call treatment.

"The oil industry is complex. Its future success will depend on continued performance by all its members. And no factor is more essential or more likely to contribute to that end than the vigorous, progressive companies that supply petroleum equipment."

P.E.S.A.

* PETROLEUM EQUIPMENT SUPPLIERS ASSOCIATION

PROUD TO BE PART OF A PIONEERING INDUSTRY

PETROLEUM EQUIPMENT SUPPLIERS ASSOCIATION

well
a
well
b
Look
how
T-8
45
40
35
30
25
20
15
BENTONITE IN LIME MUD
BENTONITE IN T-8
another well done

.....and Magcobar engineering cut mud cost on well b

NEW ORLEANS AREA

	depth	type mud	weight mud	cost of mud
a	13,600 ft.	Lime	15.6 lb./gal.	$130,000
b	13,590 ft.	T-8	15.6 lb./gal.	$ 65,000

All along the Gulf Coast, savings have been substantial using T-8 instead of other muds in drilling shale formations. The secret of T-8, as the graduates to the left show, is that it reduces the hydration and dispersion of solids, minimizing the build-up of formation solids in the mud system.

With other muds, shale solids become part of the drilling fluid, increasing the viscosity. Water, added to reduce viscosity, lowers the mud weight, and new barite must be added. The additional barite and water increase the volume, so that expensive mud is jetted. With T-8 you can maintain good mud properties with less jetting, less barite, and at impressive savings.

The successful field performance of T-8 confirms Magcobar's basic approach to drilling fluid problems: Developing better products to solve specific drilling problems, and training better mud engineers to insure the highest level of performance from these products.

T-8 is only one of Magcobar's many answers to the problem of high drilling costs. The right products *used right* by Magcobar can cut costs on your next well, too.

Wherever your drilling operations, you can use Magcobar engineering and products. There are more than 500 stockpoints in the U.S. and Canada. Elsewhere, write Foreign Operations, P. O. Box 6504, Houston, Texas.

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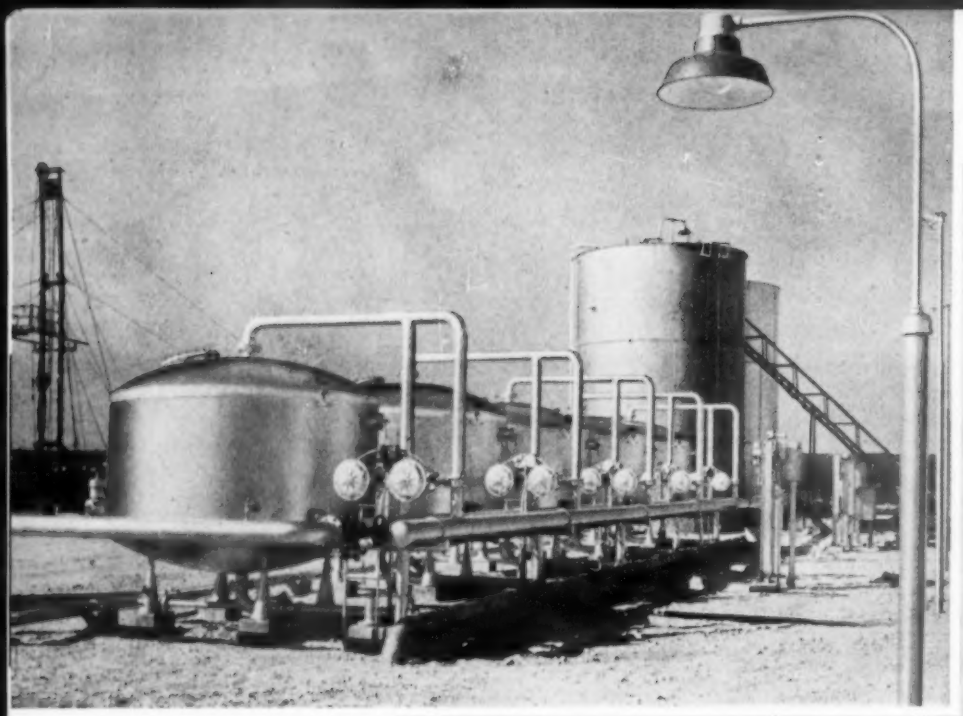

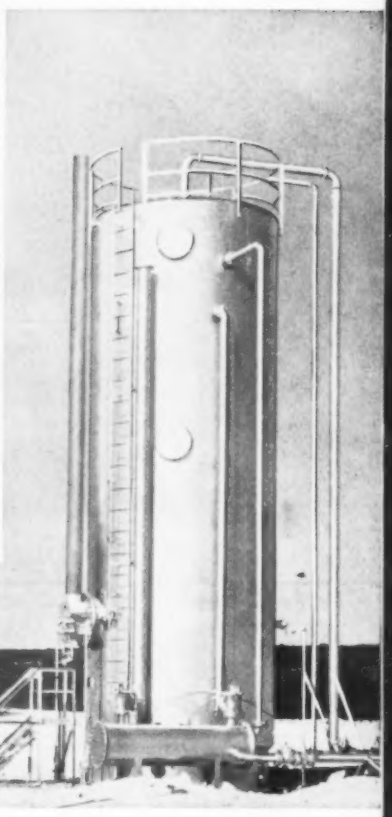

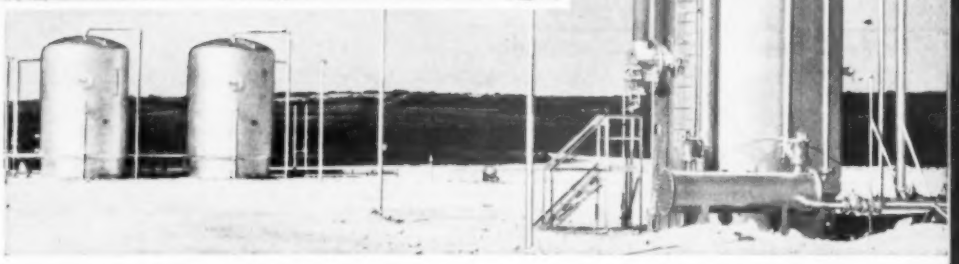

Automatic Waterflood System . . .

Utilizes BS&B AQUA-Kleener!® Filters, Oilfield Equipment and Controls

Down in Mid-Texas, there's a "young" waterflood just getting well started that operates on a completely *automatic* basis — with the aid of 5 BS&B AQUA-KLEENER Filters, 2 BS&B Free Water Knockouts, a BS&B Type S Treater, several BS&B Bolted Steel Tanks and numerous BS&B Controls. These include valve actuators, time clock controls, liquid level controls and pressure differential controls.

In this system, production water from the treater and the free water knockouts is combined with "source water" from 2 750-bbl. tanks (fed by 2 water wells), and is pumped through the filters to the injection pumps, and thence into several injection wells.

The 5 filters are controlled by a preset time clock on a cycle that keeps some of them on stream while others are on automatic backwash. The piping manifold on the filters and twin valves is so arranged that when the time clock closes the inlet valve, it opens the other valve starting the backwash cycle.

This installation is a good example of BS&B "Oilfield Automation" at work. Why not let your BS&B Man help you put your operations on an automated basis, too?

OVER 60 YEARS
BS&B
ANOTHER EXAMPLE OF PRODUCT LEADERSHIP

BLACK, SIVALLS & BRYSON, INC., DEPT. 1-EU6 P. O. BOX 1714, OKLAHOMA CITY

Total Imports May Jump 64,000 b/d

New allocations, based on rule changes, plus a large exempt volume, is expected to boost the total import level to 1,590,550 b/d in the last half of 1959.

Total imports of all petroleum liquids into the U.S., including bonded fuel oil, probably will run 1,590,550 b/d in the last half of the year, up 63,777 b/d.

That's the summation of the most likely level of imports, based on the new allocations announced this week by the Interior Dept.

The department's figures show that a total of only 1,446,522 b/d of allocated imports—not including exempt imports—will be permitted into the continental U.S. and Puerto Rico in the six months period starting July 1. Interior's figures show a 30,000 b/d rise over the permissible for the Mar. 11-June 30 period, the first covered by the mandatory restrictions.

Probable imports into the areas east of the Rockies will average 1,297,055 b/d, up 10,919 b/d over the present allocation period.

A breakdown of the Districts I-IV total shows:

- Crude and unfinished oil allocations will run 678,019 b/d, down 19,981 from the present level.
- An additional 3,410 b/d of crude and unfinished oils will be permitted due to Oil Import Appeals Board rulings.
- Exempted Canadian crude imports, primarily into the Upper Midwest, are expected to run about 67,000 b/d, the same as at present.
- Residual fuel oil imports allocations will total 364,995 b/d, up 20,754 b/d.
- Other product imports will run 76,631 b/d, up 9,547 b/d.
- Bonded imports of residual fuel oil—which figure into U.S. petroleum demand—will average approximately 107,000 b/d, about the present level.

West Coast imports are expected to average 293,495 b/d, a jump of 52,858 b/d over the current allocation period.

The big factor in the breakdown is the exemption allowed Canadian oil imports, which are not included in Interior's totals—just as they were not included for the areas East of the Rockies. Interior, in its statement, noted that probable Canadian imports would average 22,005 b/d. But companies have scheduled 50,000 b/d for the last six months of the year.

The District V breakdown shows:

- Allocated crude and unfinished imports are set for an average of 232,876 b/d, up 21,876 b/d over the existing allocation.
- Canadian crude imports most likely will average 50,000 b/d, compared with only 19,000 b/d for the current period.
- Residual imports will run at the same level as now—3,886 b/d.
- Other product imports will be allowed at 6,753 b/d, unchanged.

Despite the expected increase in total imports, most importers east of the Rockies will have lower allocations in the last half of the year, due to changes in rules and a revised demand estimate (tables, pages 16-17).

The crude and unfinished imports subject to allocation east of the Rockies will be pared about 6%, based on the U.S. Bureau of Mines' forecast for the last half of the year. The estimate is that total demand in Districts I-IV will average 8,385,000 b/d, a seasonal decline from the first half estimate of 8,412,000 b/d.

Although the forecast of demand in Districts I-IV is 0.3% under the estimate for the first half, it is 3.3% higher than actual demand in the last six months of 1958.

By presidential proclamation the allocation of crude and unfinished oil imports in the areas east of the Rockies is limited to 9% of the bureau's estimate of total demand.

A downward revision in the refinery-run ratios for import allocation east of the Rockies, and a reduction in the "historical" factor, are the two most important rule changes affecting individual import allocations.

The cutback in the refinery-run formula—the basic factor determining allocations—was made across the board (table, left). There were no changes in the "spreads."

Eligible refiners will get import allocations based on refinery inputs for the year ended last Mar. 31.

Historic importers in Districts I-IV now will be guaranteed only 75.7% of the crude imports allowed them under the voluntary program. Earlier, this guarantee had been 80% for all importers. District V importers will continue to have the 80% factor applied to their allocations.

Crude and unfinished imports on the West Coast will be increased to all refiners, based on a higher demand forecast for the last half of the year in the seven western states, and an upward revision in the refinery-run formula.

The Bureau of Mines estimates that the difference between domestic supply and demand in District V will be 265,000 b/d. The new crude and unfinished oil allocation of 232,876 b/d allows for a deduction of 22,005 b/d that Imports Administrator Matthew V. Carson, Jr., made to allow for Canadian imports.

The Oil Import Administration is

EAST OF THE ROCKIES, the refinery-run formula starting July 1 will be reduced to:

Average Runs Thousand b/d	% of Runs New	Old
0-10	11.4%	12%
10-20	10.4	11
20-30	9.5	10
30-60	8.5	9
60-100	7.6	8
100-150	6.6	7
150-200	5.7	6
200-300	4.7	5
Over 300	3.8	4

WEST OF THE ROCKIES, the refinery-run formula starting July 1 will be increased to:

Average Runs Thousand b/d	% of Runs New	Old
0-10	37.5%	25%
10-20	30.0	20
20-30	22.5	15
30-60	15.0	10
60-100	12.0	9
100-150	11.0	8
150-200	10.0	8
Over 200	8.0	6

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empowered to let District V importers bring in more unfinished oil than just 10% of their total crude and unfinished allocation.

The discretionary treatment can be given on request if total District V imports of unfinished oil does not exceed 10% of the crude-and-unfinished level.

The nearly 21,000 b/d increase set for residual fuel oil east of the Rockies is designed to cover the higher demand for heavy fuel oil this year, and to allow a stock buildup for winter.

Earlier, the imports administration had indicated it might bide its time before hiking the residual level, which can be changed each month if necessary.

There was a general expectancy that higher residual imports would be necessary before year's end, but the question was when.

Under Secretary of the Interior Elmer Bennett, in his order boosting residual imports into Districts I-IV, said the Bureau of Mines estimate on residual oil in the eastern section of the country is for demand to exceed domestic supply by about 330,000 b/d.

"The estimated requirement of 330,000 b/d is based upon normal weather conditions," Bennett said, "with no change in stock level." Bennett added that unusually cold weather may increase demand substantially, and that he considers it desirable for year-end stocks to be somewhat higher than the inventory at the end of June, 1959.

If demand estimates prevail, Bennett said, the new 365,000 b/d allowable in Districts I-IV will allow a stock buildup of 35,000 b/d—an increase of about 6.3-million bbl. for the six-month period through Dec. 31.

"This increase, added to the estimated stocks as of June 30, 1959, of 27.2-million bbl., would give a year-end closing inventory of 33.5-million bbl., a level that corresponds closely to closing stocks at the end of 1957, and which is somewhat higher than such stocks at the end of 1958."

Imports into Puerto Rico will be maintained at their present levels until a study can be made, except for Defense Dept. allocations, which are being cut.

Carson said Puerto Rican importers have made conflicting assertions, and that a public hearing on Puerto Rico's supply-demand situation will be held in early July.

Under the new rules, exchange

NEXT WEEK in Petroleum Week

Cost reduction and efficiency are just as important today as when the general business decline set in more than a year ago, forcing a period of austerity on the oil industry.

In a Special Report next week, Petroleum Week will tell just what is being done to hold the line on production costs, in what ways costs are being cut, and in what other areas further reductions might be expected.

New Refinery Runs Formula and a Cut in

CRUDE AND UNFINISHED OIL ALLOCATIONS

DISTRICTS I-IV

	New	Old
Advance Refining	255	260
Allby Asphalt	230	260
Allied Materials	245	250
American Petrofina	3,920	4,050
Anderson-Prichard	3,090	3,320
Ashland Oil & Refining	10,870	11,300
Atlantic Refining	38,000	40,160
Aurora Gasoline	5,160	5,400
Bayour State Oil	80	.....
Bay Refining	2,040	2,160
Bell Oil & Gas	1,980	2,070
Berry Asphalt	325	340
Berry Refining	645	570
Big West Oil	240	.....
Cactus Petroleum	240	220
Canal Refining	115	120
Calumet Refining	210	.....
Champlin Oil	2,690	2,830
Chanute Refining	10	20
Cities Service	21,040	22,240
Clark Oil	3,180	3,220
Continental Oil	13,350	12,610
Century Refining	240	.....
Cooperative Refinery	3,610	3,690
Cosden Petroleum	3,880	4,080
Cracker Asphalt	140	150
Cross Co.	345	330
Crown Central	3,600	3,860
Danaho Refining	380	400
Delhi-Taylor	3,010	3,290
Mayfair Minerals	705	.....
Derby Refining	1,720	1,860
Eastern States	11,810	12,480
Eddy Refining	225	230
Elk Refining	470	.....
El Paso Natural	1,560	1,510
Empire Petroleum	460	.....
Empire State Oil	360	290
Evangeline Refining	160	.....
Famariss Oil	160	170
Farmers Union	1,870	1,890
Frontier Refining	2,070	2,090
Gabriel Oil	1,895	.....
Gladieux Oil	55	.....
Great Western	175	220
Gulf Oil	71,990	76,080
Hess	7,420	7,840
Howell Refining	425	300
Husky Oil	630	670
Ida Gasoline	20	.....
Illinois Farm Supply	490	470
Indiana Farm Bureau	1,340	1,400
Ingram Oil	2,650	2,800
Jarvis Co.	150	130
Jet Fuel Refinery	40	.....
Kendall Refining	465	460
Kerr-McGee	4,050	3,990
La Gloria	1,670	1,570
Laketon Asphalt	240	220
Leonard Refineries	2,660	2,710
Louisville Refining	830	820
Macmillan Petroleum	380	380
Marvel Refining	150	.....
Metropolitan Petroleum	1,310	1,440
Mid-America Refining	240	250
Midland Cooperatives	1,330	1,290
Monarch Refining	250	250
Monsanto Chemical	3,000	.....
Murphy Corp.	3,260	3,440
Naph-Sol Refining	605	590
National Cooperative	2,760	2,870
Northwestern Refining	8,710	9,200
Ohio Oil	4,150	4,330
Oriental Refining	400	.....
Osceola Refining	220	.....
Pennsylvania Refining	130	140
Petroleum Refining	230	220
Petroleum Specialties	720	680
Phillips Petroleum	15,960	16,790
Plymouth Oil	3,240	3,200
Pontiac Refining	5,250	5,740
Premier Oil Refining	1,480	1,550
Pure Oil	12,900	13,540
Quaker State	960	930
R. J. Oil	380	410
Rado Refining	35	40
Richards, Inc.	20	20
Rock Island	1,550	1,610
Seminole Asphalt	190	190
Shamrock Oil & Gas	2,160	2,270
Shell Oil	21,570	22,760
Sinclair Oil	40,120	42,400
Sioux Oil	455	460
Skelly Oil	4,800	5,010
Socony Mobil	43,300	45,760
Sonneborn Sons	135	160
Southland Co.	2,270	480
South Penn Oil	1,090	.....
Southwestern Oil	3,600	3,700
Stand. (Calif.)	43,070	45,520
Stand. (Ind.)	32,410	33,730
Stand. (N.J.)	46,480	49,120
Stand. (Ohio)	10,790	11,130
Sun Oil	32,550	34,400
Sunray Mid-Continent	9,170	9,420
Suntide Refining	4,150	4,140
Sure-Seal Corp.	45	.....
Tennessee Gas	3,340	3,410
Texas Asphalt	1,515	.....
Texas Calgary	170	190
Texas City	3,030	3,200
Texaco	35,120	37,120
Texas Gas	630	.....
Three Rivers	105	90
Tidewater Oil	22,100	23,360
Union Oil	375	400
Unita Oil	135	.....
United Refining	2,270	2,400
Vickers Petroleum	1,520	1,510
Vulcan Asphalt	25	210
Warrior Asphalt	135	.....
Waskom Natural	70	.....
Western States	520	500
Westland Oil	165	170
Wickett Refining	290	.....
Wolf's Head	200	.....
Wyandotte Chemicals	245	.....

agreements will be allowed to continue with some minor changes.

Foreign crude or unfinished oil may be traded interchangeably for either domestic crude or unfinished. All exchanges must be on an oil-for-oil basis "and any exchange involving adjustments, settlements, or accounting on a monetary basis is not permissible and will not be approved by the administrator," the rules read.

Test samples of oil can be imported without license up to 110 gal. per entry.

Customs collectors will be authorized to permit these imports as samples for testing or analysis.

Under the new import schedule, 225 allocations will be given to importing companies.

Crude and unfinished oil allocations have been issued to 127 importers in Districts I-IV, 27 in District V, and 3 in Puerto Rico.

Eight companies in Districts I-IV and one in District V have been dropped from the allocation list because they did not apply in accordance with import regulations.

Pipeline Dividend Rate Upheld

The Supreme Court ruled this week that pipelines can pay dividends up to 7% to shipper-owner oil companies, based on the total valuation of pipeline property.

The court's decision was mainly an interpretation of a 1941 consent decree between the Dept. of Justice and the oil industry, which set 7% as the maximum dividend rate for shipper-owners of pipelines, but left unclear the exact method of determining pipeline valuation.

The decision clears Arapahoe Pipe Line Co. of DJ charges of violating the decree.

Three other pipeline companies were cleared of similar charges in district courts last year.

The Supreme Court indicated that pipeline companies have operated in the spirit of the 1941 consent decree with the government, which set up the framework for dividend payments to the lines' shipper-owners, and that no change is necessary.

Justice Hugo L. Black, in his majority opinion, wrote that DJ's contention that valuation must be based on the current value of the shipper-owner's original investment "cannot be reconciled with the consistent reading given to the decree by both the United States and appellees [oil companies] from the date it was entered until 1957—16 years later."

The new ruling appears to kill any hope that Rep. Celler (D., N. Y.) may have had for passage of his new bill to bar dividend payments by shipper-owned pipelines (page 22).

Celler, who recently wound up lengthy hearings on common carrier pipelines (PW—May29'59,p18), has become a self-appointed champion of divorced pipeline operations.

The bill was given little chance of passage when introduced early this week. The Supreme Court decision, almost directly opposed to the Celler bill's intent, makes the possibility of passage even more remote.

'Historical' Base Will Trim Most Allocations

DISTRICT V

	New	Old
Bankline Oil	2,540	1,840
Caminol	2,200	2,240
Century Oil	1,290	1,200
Douglas Oil	6,050	4,140
Edgington Oil	2,760	2,240
Envoy Petroleum	1,000	960
Fletcher Oil	4,200	4,160
Golden Bear Oil	1,220	.....
Golden Eagle	2,400	1,840
Macmillan Petroleum	2,350	1,840
Manespo Refining	1,100	.....
Mohawk Petroleum	3,290	2,360
Newhall Refining	690	.....
Palomar Oil	400	400
Powerine Oil	3,930	2,560
Richfield Oil	21,350	14,630
Shell Oil	24,300	24,320
Signal Oil & Gas	3,200	3,200
Socal Oil	940	800
Socony Mobil	19,930	19,120
Stand. (Calif.)	37,260	27,690
Sunland Refining	1,800	1,840
Texaco	15,400	15,440
Tidewater Oil	28,400	28,400
Union Oil	25,320	17,380
U. S. Oil	6,000	6,000
Wilshire Oil	13,600	13,600

PUERTO RICO

	New	Old
Caribbean Refining	18,203	18,203
Commonwealth Oil Rfg.	61,944	61,944
Gonzales Chemical Ind.	736	.....

RESIDUAL OIL

DISTRICTS I-IV

	New	Old
Ashland Oil & Refining	165	156
Asiatic Petroleum	744	702
Atlantic Refining	288	272
Ballard Oil	3,110	3,985
Belcher Oil	1,675	1,580
Buckley Bros., Inc.	4,506	4,250
Canadian National Rys.	21	.....
Central Petroleum	3,261	3,187
Colonial Oil Industries	3,970	3,744
Eastern States	7,541	7,112
Gulf Oil	2,141	2,019
George Hall Corp.	377	356
Hess, Inc.	41,275	38,928
Inland Terminal	15	14
Kaneb, George T.	28	25
Metropolitan Petroleum	22,541	15,866
U. S. MPSA	1,458	1,375
New England Petroleum	9,037	8,523
Paragon Oil	57,705	54,423
Pure Oil	427	403
Royal Petroleum	4,226	2,510
Shell Caribbean Pet.	13,486	12,719
Shell Oil	4,256	4,014
Sinclair Oil	303	286
Socony Mobil	269	.....
C. H. Sprague & Son	22,798	21,495
Standard (Calif.)	674	1,102
Standard (Ind.)	22,990	21,683
Standard (Ky.)	11,733	11,066
Standard (N. J.)	110,494	104,210
Steuart Petroleum	4,135	3,900
Texaco	901	850
Whale Oil	319	301
White Fuel	8,126	7,664

DISTRICT V

	New	Old
U. S. MPSA	3,866	3,866

PUERTO RICO

	New	Old
U. S. MPSA	516	1,518
Porto Rico Iron Works	1,074	953
Standard (N. J.)	550	497

FINISHED PRODUCTS

DISTRICTS I-IV

	New	Old
Asiatic Petroleum	23	31
Ballard Oil	1,165	.....
Blanchet & Fils Ltee.	3	.....
Gulf Oil	2,723	2,723
Hess, Inc.	3,234	3,234
Leonhardt Associates	0.20	.....
Lubrizoil Corp.	2	.....
Metropolitan Petroleum	5,100	5,100
U. S. MPSA	30,554	30,554
Paragon Oil	1,052	1,052
Pure Oil	5.50	5
Robinson Lumber	1.25	.....
Royal Petroleum	1,476	1,476
Shell Oil	9,789	9,789
Socony Mobil	25	.....
Standard (Calif.)	7,284	6,818
Standard (N. J.)	13,590	13,590
Sun Oil	604	604

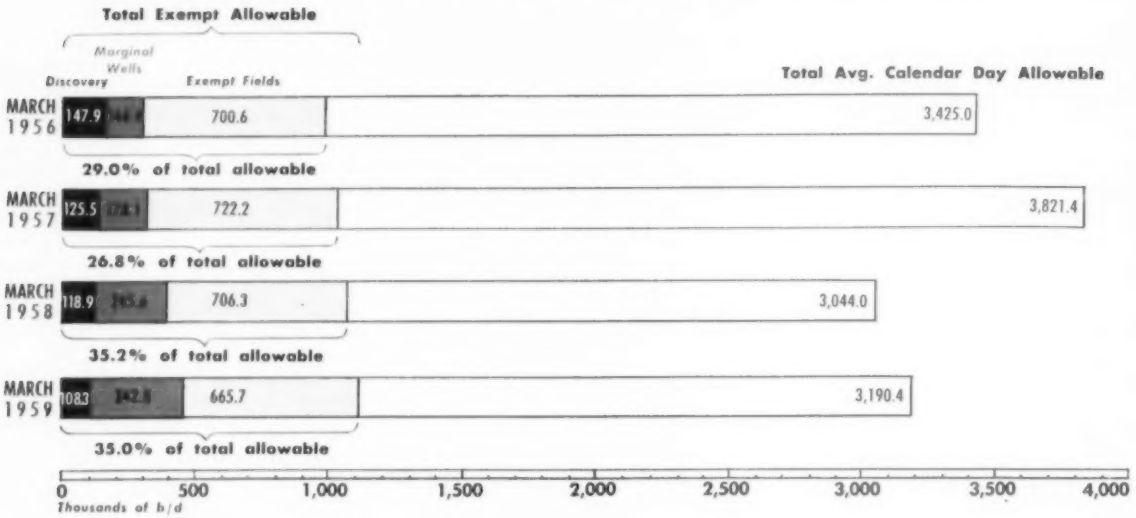
DISTRICT V

	New	Old
Alaska Propane	35	35
Asiatic Petroleum	8	.....
Calor Gas	2.10	.....
Fairbanks Plumbing & Htg.	3.33	9
U. S. MPSA	3,876	3,876
Shell Oil	185	186
Standard (Calif.)	576	567
Time Oil	2,068	2,068

PUERTO RICO

	New	Old
U. S. MPSA	152	406
Shell Co. (Puerto Rico)	57	57
Standard (N. J.)	104	107
Tropical Gas	41	41

Marginal Wells Account for Largest Part of Rise as . . .



Texas Exempt Allowable Continues Up

Exempt oil production in Texas, from marginal and other wells not subject to shutdown days, is continuing at a peak rate, even after a downward adjustment last week.

The current exempt production amounts to 1,124,585 b/d, or 39.1% of the total calendar-day allowable.

The peak in exempt production was reached in the last week of May, averaging 1,162,079 b/d. The lower figure for June is the result of the Railroad Commission's elimination of "dead" wells and reduction of allowable to actual production realized in marginal wells. The latest downward revision in exempt allocations resulted in a net reduction of 419 in total wells in the state, to 189,162.

The greatest increase in exempt production in Texas results from the growing number of marginal wells, with production from those wells up 136.5% in the past three years.

The over-all exempt allowable has increased 12.4%, while the total calendar-day allowable has declined by 7%, in that period.

But the "squeeze" on the total allowable from marginal wells alone now amounts to nearly 343,000 b/d, equal to 30% of the total exempt allowable (chart, below).

The "squeeze" on the total allowable results from the method of setting the maximum permissible production. Allocation of allowable is first made to the statutory marginal wells and other wells exempt from shutdown days for physical reasons.

The balance of the allowable is then allocated to various fields in the state on a ratable basis consistent with their most efficient rate (MER) of production. The field allowable is then prorated among the wells in the field, under rules prescribed for the particular fields.

The Texas law describes a marginal well as one "incapable of producing its maximum daily capacity except by pumping, gas lift, or other means of artificial lift."

Exempt fields, including those operating under such secondary recovery methods as waterfloods, threaten in the long run to create the most serious proration problem in Texas and other states with market-demand statutes.

The Interstate Oil Compact Commission, which has heard both the pros and cons on strict proration of waterflood projects now exempt from shutdown days in Texas, will hear a discussion of the subject again next week.

The compact has had a subcommittee studying whether or not waterfloods would be damaged by shutdown days. Dr. Walter Rose, of the University of Illinois, will report on the influence of curtailments of production on recovery from waterflood projects.

A majority of the Texas Railroad Commissioners have indicated that they would prefer holding a hearing to determine "reasonable" limitations on waterflood production.

The growing number of waterflood projects—aimed at getting the greatest ultimate recovery of petroleum liquids—has resulted in sharp criticism that unrestricted waterflood production is taking an excessively large share of the available market demand.

Many experts on waterflood operations believe that reasonable limitations could be reached on waterflood output, which would still furnish adequate economic incentive for initiation of such conservation projects.

At present, the Texas conservation agency grants capacity allowables to waterfloods initiated on wells in the stripper, or marginal, stage. And, according to one member of the commission, the policy has resulted in allowables as high as 600 b/d.

Waterflood opponents have charged that such a policy has an adverse effect on exploration, and that in some instances waterflood projects are being delayed until wells reach that stripper stage so that they may qualify for capacity allowables.

While the exempt allowables assigned to marginal wells have gone up sharply, exempt allowables of discovery wells have declined 27% in Texas in the past three years.

The Texas discovery allowable exempts a new field from shutdown orders for 18 months, or until the sixth well in the reservoir is completed, whichever occurs first.

But, indicative of smaller discoveries being made and the decline in the new fields found in the state in the last three years, the over-all discovery allowable has declined from 147,900 b/d to 108,300 b/d.

Pennsylvania Lubes Hit Snags Abroad

Western Pennsylvania refiners may soon begin building lube-blending plants abroad to retain the foreign markets that they now call vital.

Unlike most refiners, those in western Pennsylvania are primarily lube makers. They sell gasoline and heating oils almost as byproducts, while actively promoting "Pennsylvania grade lubes" the world over.

In recent years, the foreign market for those lubes has "grown to be too large to lose," as one of the Pennsylvania refiners put it last week.

The main threat to Pennsylvania lubes abroad comes from new government restrictions in Europe and South America against imports in cans and drums.

Last week Colombia became the latest South American country to take such restrictions under active consideration.

Brazil and Chile have already enacted such regulations.

In Europe, Great Britain and Ireland have such measures, and a few countries on the continent are said to be considering them.

The regulations are designed primarily to protect domestic steel, tin, and canning industries, but they have the effect of banning lube imports, because such imports, due to limited demand, can only be delivered economically in cans and drums.

Several plans for lube plants within countries with such restrictions are now high on the priority list of western Pennsylvania refiners.

Lube-blending plants under consideration would amount to erection of storage tanks, blending tanks, and canning equipment. Lube stocks for blending would be exported in bulk from U.S. plants.

The cost of such a plant would most likely fall somewhere between $250,000 and $500,000, depending on prices of tanks and equipment in the country where it would be built.

One Pennsylvania lube maker now feels that there is "hardly an alternative" to building such plants in Europe if Pennsylvania lubes are to retain their large market there. This company is now considering building such a plant in Holland.

Other Pennsylvania lube makers are investigating the possibility of building "cooperative" lube plants in Europe and South America.

The proposed lube plants would also help Pennsylvania refiners meet increasing price competition in European markets.

The large number of refineries built by major oil companies in Europe in recent years has increased competition in lubricating oil prices there, with Pennsylvania grade lubes usually being underpriced by the locally manufactured product.

With blending facilities near the lube markets, Pennsylvania refiners feel, tanker shipments of blending oils would be economical, and Penn grade lubes would be better able to compete pricewise in local marketing areas.

Loss of European and South American lube markets could cause a vigorous shakeup in the operations of many western Pennsylvania refiners.

It's now doubtful that these refiners could make up for the loss of foreign lube markets with increased domestic retail sales. So they would either have to sell a greater amount of their lubes to major companies, or substantially reduce crude runs.

Signal to Hike Venezuelan Output

Signal Oil & Gas Co. plans to step up its Venezuelan oil production and expand marketing operations when it acquires Eastern States Petroleum & Chemical Corp.

The acquisition of Eastern States will give Signal additional import allocations of 12,500 b/d of crude and 7,000 b/d of fuel oil, S. B. Mosher, Signal's chairman and chief executive, pointed out last week.

He also said that Signal planned to expand Eastern States' retail markets, devote that company's Houston research laboratory mainly to petrochemicals, and within two years adopt only one brand instead of Signal's present four.

Signal will increase its Venezuelan production from the current 16,000 b/d to about 25,000 b/d by the end of this year, Mosher said.

Some of the foreign production will be processed at Eastern State's 60,000 b/d refinery at Houston after the end of the year, when Eastern States' contract to import oil from British Petroleum Co. expires.

Signal also expects production increases in Argentina, where it is participating with others in the development of a 100,000-acre concession.

Plans to construct two new Signal refineries on the West Coast remain in abeyance, but some plant expansion will begin shortly, Mosher said.

Construction of a refinery in either Northern California or the Pacific Northwest is still being considered, but nothing definite has been decided.

Replacement of the company's fire-and-explosion-damaged Hancock refinery at Long Beach also has not been decided.

Enlargement of Signal's recently acquired Bankline Oil Co. refinery at Bakersfield is scheduled to begin soon. The Hancock plant's undamaged cracking equipment will be shifted to Bakersfield.

West Germany Gets Next World Congress

The next World Petroleum Congress will be held in the Federal Republic of Germany under the chairmanship of Sir Stephen Gibson, C.B.E. (left), a member of the council of the Institute of Petroleum of Great Britain.

No date was set for the next congress—the sixth—although they are normally held every four years.

No city was selected either.

Gibson is a former managing director of Iraq Petroleum Co.

Gibson will be succeeded as vice-chairman of the Congress' permanent council by Dr. Gunther Schlicht, chairman, Deutsche Erdoel.

John F. Caley, of the Geological Survey of Canada, has been elected to the permanent council.

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What's New / IN THE INDUSTRY

Texas legislators are beginning to show opposition again to a "severance beneficiary" tax on natural gas. The lawmakers at the regular session in the spring turned down Gov. Price Daniel's bid for a 3% severance tax. At the current special session he asked for a 5% beneficiary tax, coupled with a reduction from 7% to 5% in the gas production tax.

This week the Senate's State Affairs Committee recommended that the gas production tax be raised from 7% to 8%, with no severance beneficiary tax. Producer groups, particularly the Texas Mid-Continent Oil & Gas Assn. have charged that the severance beneficiary tax would be just another tax on producers if gas purchasers—particularly out-of-state buyers—refused to pay the proposed impost that would require producers to pay it, or seek a court order against buyers.

•

New Sahara concessions are stirring industry interest. The French government last week granted long-awaited approval to a joint request by Standard Oil Co. (N. J.) and Cie. Francaise des Petroles for a 7,952-sq. mi. concession near the Tunisian border. Other permits went to Phillips Petroleum Co., British Petroleum Co., and several French firms. The Jersey-French permit is for five years and requires a minimum investment of $10-million.

•

Pressure is growing for a big boost in the maximum permissible lease holdings on federal lands in Alaska. Alaskan members of Congress have asked for a new maximum of 1-million acres to spur oil development. An individual can now hold up to 100,000 acres under lease, and an additional 200,000 acres under option. Under a law passed in May, Alaska allows a 1-million-acre maximum on state lands.

•

The Texas Railroad Commission should be permitted to consider economic waste in well spacing, according to Johnny Mitchell, president of Blue Oil Gas Co., Houston. "Spacing," he said, "should be requested at the time of completion of the first well [since] it is unfair to the Railroad Commission for the industry to drill wells too closely in a new field and then come in later and request that additional wells in the field be wider spaced."

•

The Canadian Parliament may get a veto power over any proposal to limit imports and exports. The National Energy Board Bill, recently passed in the House of Commons and now before the Senate, has been amended to give Parliament such a power of review of any government import-export restrictions.

•

Earnings in the domestic oil industry run below the average of manufacturing industries, according to the Independent Petroleum Assn. of America. Oil's average rate of return between 1955 and 1957 was 9.9%, compared with 11.9% for all manufacturing industries.

•

Oil well servicing contractors are joining other industry groups in supporting percentage depletion. The program, sponsored by the Assn. of Oilwell Servicing Contractors on behalf of 2,000 such contractors, is aimed at informing the general public and members of Congress of the economic effects of a cut in the 27.5% depletion permitted producers.

HAMONDFLOTE* plastic COVER CRASHES CONSERVATION BARRIER

For over one year Sohio has tested a HAMONDFLOTE COVER installation at their Andover, Ohio bulk station. Tests involved mechanical operation, general performance and conservation characteristics.

Based on the results of tests SOHIO HAS PURCHASED SIXTEEN ADDITIONAL HAMONDFLOTE COVERS for their field conservation program.

. . . And here's what the man in charge of Sohio's station says:

"In reply to your letter of January 12, I have a HAMONDFLOTE COVER in an upright gasoline tank containing two four inch inside circumferential angles. The COVER is working excellently. It floats up and down over the angles with no ill effects on the COVER. I cannot see that there has been any wear on the COVER in a years use. It is a 25,000 gallon tank and I sell 10,000 gallons a week so it has had constant use.

The savings were apparent a week after it was installed as no fumes could be detected by nose through the top manhole cover.

It has not caused any trouble as far as filling or measuring the product or overall depth of tank (as for water or contamination of product) since it was installed. I would highly recommend the HAMONDFLOTE COVER for all products, especially gasolines."

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Looking Ahead in Washington

McGraw-Hill
Washington
Bureau
June 12, 1959

The coal industry is throwing its weight behind a "national fuels policy." Coal men are vigorously trying to escape a market pinch. A key part of their competition plan is to lobby in Congress for adoption of a major new energy policy. One of the leading advocates of such a policy is William Connole, vice-chairman of the Federal Power Commission. Connole wants a fair federal policy determining the best role for all energy-producers: oil, gas, coal, atomics. The coal industry intends to push the idea, with the thought that any equitable study of fuels would better the present position of coal.

Coal leaders also intend to hit the use of natural gas as boiler fuel. The coal industry long has argued that such use constitutes "wastefulness." Various coal amendments to the ill-fated natural gas bills were aimed at reducing competition in the boiler-fuel market. But now the coal men will try to convince the public that home consumers of gas are also footing the bill for industrial consumers.

Another coal target is to keep import controls on residual fuel oil. The coal industry worked successfully to get residual oil included in the mandatory imports program, and now hopes to drive down the import level if possible. But with residual imports moving up this week (page 15), there will be cries from coal men.

•

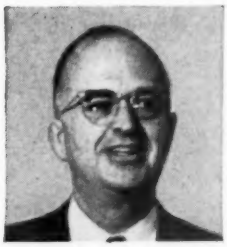
Congress will ignore the Justice Dept.'s request to quit reporting on the Interstate Oil Compact. Antitrust officials, after asking the House Interstate Commerce Committee to take them off the hook for the annual reports, now have backed down. Had the Justice Dept. stuck to its position and tried to make an issue of the reports, consumer-state congressmen would have worked to maintain the watch-dog requirement on oil compact activities. But the House committee, after learning that the Justice Dept. wasn't willing to get into a fight, ignored the issue and reported a bill to extend the authority for the compact—with the annual antitrust reports. The bill now is pending before the House, with no further obstacles in sight.

•

Rep. Emanuel Celler (D., N. Y.) has introduced a bill to bar dividend payments by shipper-owned oil pipelines. Celler, chairman of the House Judiciary Committee, tossed his bill into the House hopper this week on the heels of his subcommittee report on pipelines (PW—May29'-59,p18). Celler claims the bill presents a remedy less severe than "divorcement . . . which ultimately may prove to be necessary." The bill is being referred to the House Interstate Commerce Committee, whose present makeup indicates little chance for early action. Rep. Oren Harris (D., Ark.) is the Commerce Committee Chairman. Since Celler's action, however, the Supreme Court this week ruled that 7% is a permissible dividend rate to pay shipper-owners, but based on current value of pipeline investment (page 17).

•

Oil and gas depletion now is officially on the House Ways & Means Committee's study agenda. Chairman Wilbur Mills (D., Ark.) will start broad tax hearings in November. And one of the 15 study categories will be business-expense deductions—including "depletion and exploration and development costs."



This is Ethyl's Tucker Dawson

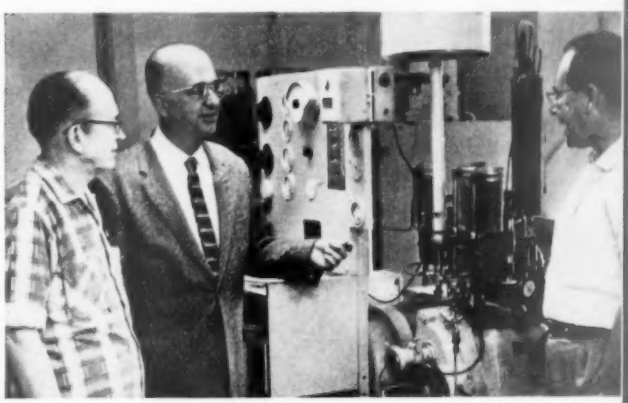
He's a specialist in gasoline quality control, and manager of one of Ethyl's gasoline testing laboratories.

Tucker Dawson is a chemist, a graduate of Mississippi State College. He joined Ethyl in 1929 as a technician in the Baton Rouge Gasoline Testing Laboratory, and he's one of Ethyl's pioneers in developing and improving gasoline testing methods.

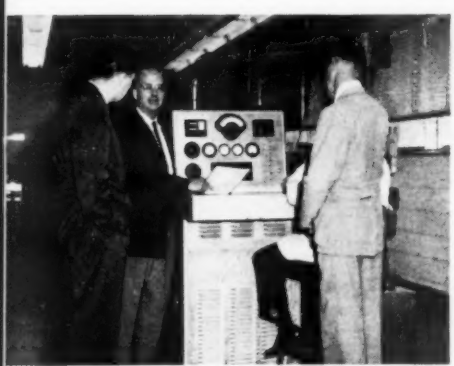
In 1955, the Baton Rouge Laboratory moved to Houston to provide faster service to the refineries in the Southwest. As laboratory manager, Dawson supervised this move without interruption to testing services.

Like the managers of Ethyl's other gasoline testing laboratories, Tucker plays an important role in our overall program of providing quality control service and helping refinery laboratories with the blending and testing of gasoline.

1. Refiners often check plans with Dawson before setting up a gasoline testing program of their own. Tucker draws on 30 years' experience and know-how in pointing out ways to insure maximum value from planned testing operations.



2. Another function of Ethyl's laboratory managers is to acquaint refinery laboratory personnel with improvements or changes in knock-testing equipment and techniques. Here, the reason for Dawson's visit was to discuss improved instrumentation for the CFR engine panel board.



3. Dawson shows visitors one of a battery of knock-test engines in the Houston laboratory. With this equipment and planned testing routines, Ethyl can report complete test results on refinery samples on the same day they are received.

4. Test data on purchased service station samples are reviewed by Dawson and an Ethyl chemist. These data—plus those from our four other laboratories—will be compiled into Ethyl's widely distributed *Monthly Report on Gasoline Quality*.

5. Servicing customers' CFR engine cylinders in our laboratories and training their personnel are all part of Ethyl's regular program. Here Dawson is explaining Ethyl techniques for overhauling test engines to a group of oil company technicians-in-training.

Gasoline testing is another Ethyl service to oil companies . . . typifying Ethyl's belief that service is just as important as product.

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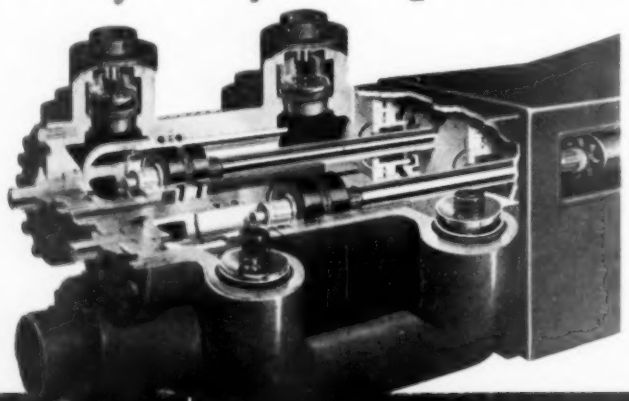

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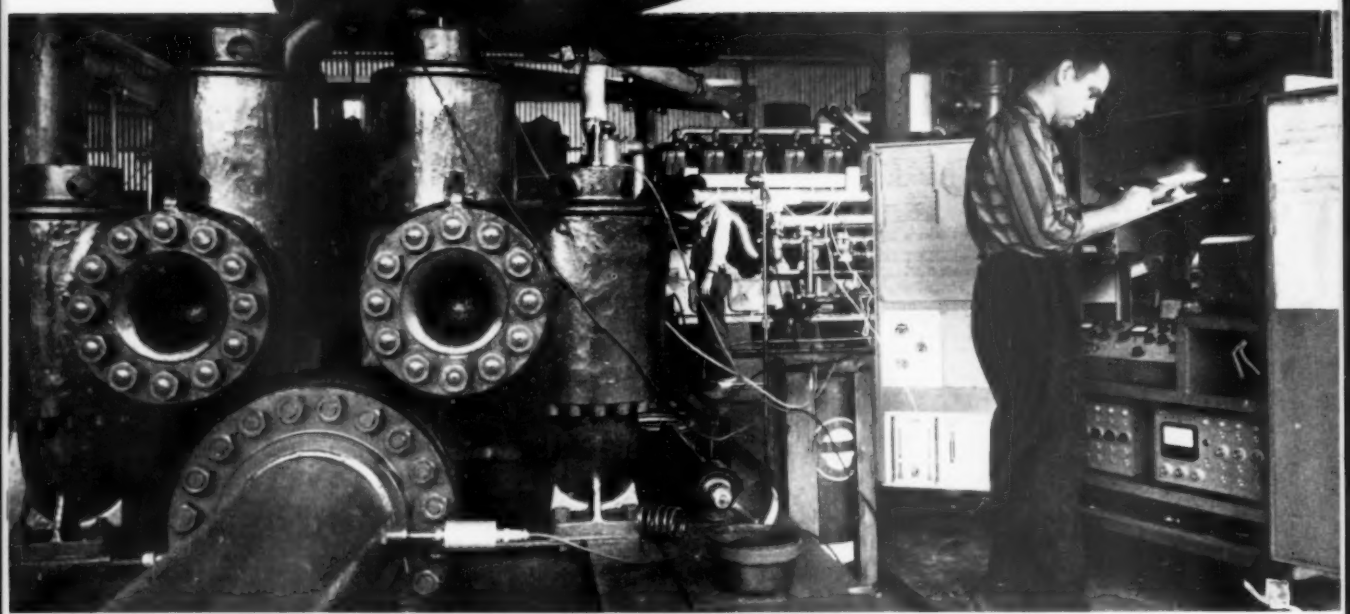

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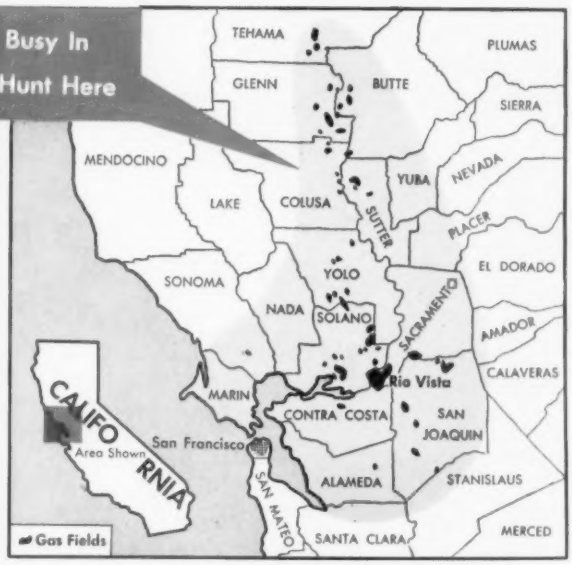

NIGHT SCENE shows Brown Drilling Co. rig on location in the Sacramento Valley (shaded area, map), now in the spotlight as . . .

Gas Hunt Booms in North California

"Everyone's on a gas kick" in north California's Sacramento Valley. That comment by one oil man (echoed by many others) is amply supported by the drilling boom now shaping up in the valley.

The Sacramento Valley gas area, extending from Vernalis to Corning, a distance of about 170 mi., is the traditional hunting ground for operators looking for gas in California.

The current rush threatens to dwarf those of recent years. More than 20% more exploratory holes are expected this year than last. The first wildcats announced in April—normal time for valley exploration after the threat of floods is past—are the forerunners of an estimated 100 exploratory wells to be drilled in the valley this year. This compares with 82 exploratory wells last year and 73 in 1957.

There are two main factors behind the indicated boom: (1) a strong demand for gas; and (2) a decline in the status of crude in California.

Demand for natural gas far outstrips supply in California, with more than 55% of the natural gas coming from out-of-state sources.

Natural gas produced in California is competitive with imported gas. The going price in Rio Vista gas field, largest in the state, is 31¢ per Mcf. Utilities are paying 42¢ per Mcf. for imported gas at the state border.

So far, each operator who has found a commercial accumulation of gas in the Sacramento Valley has been able to sell it. This is a far cry from the oil situation, which finds some producers going as far as 50¢ a bbl. under the market, and paying trucking costs as well, to sell their crude.

Relatively cheap exploration is another important factor.

Land bonuses in the Sacramento Valley run from as low as $1 to $5 per acre, with $10 per acre considered high. The latter figure has come to represent a starting point for bonuses on prospective oil acreage in other parts of the state. Royalties are more favorable for the operator, too, averaging 1/8 instead of 1/6 or higher, as with oil leases in the state.

Drilling costs are not excessive, which also contributes to the attraction of the area.

A figure of $3.50 per ft. is considered a fair average for wells going to 6,000 ft. or 7,000 ft. in the valley.

One operator figures a cost of about $50,000 to drill and complete a 5,000-ft. hole.

Completion costs are less than for oil wells because less equipment is needed. Maintenance costs also are normally less than for oil wells completed at corresponding depths.

Fast payouts help make Sacramento Valley wildcatting attractive.

Payout is in the vicinity of a year for a good well.

And rate of return can be very good. In the case of one recently-completed well, the operator anticipates a net return of about $3.5-million—which figures out at the rate of 40:1 on the investment.

Independents are carrying the ball in present and projected activity.

Nine rigs are working, including two for majors and seven for independents. In addition, locations have been announced for 11 new tests.

Here are the active projects:

- Contra Costa County—Intex Oil Co. No. 1 Intex-South Penn-Delta Properties, section 7-2n-3e, Jersey Island area, drilling below 4,345 ft.

- Glenn County—General Exploration Co. No. 1 Max Pray-Central Valley-Boyd Unit A, section 2-18n-1w, Afton area, preparing to spud; General Petroleum Corp. No. 4 Section 81 Unit, section 9-19n-2w, Beehive Bend field, preparing to recomplete; General Petroleum Corp. No. 2-A Sprague Lewis Unit, section 33-20n-2w, Beehive Bend field, drilling below 605 ft.; and R. W. McBurney, Operator, No. 29-3 Westpet-Sunray-McBurney, section 29-20n-2w, Beehive Bend field, preparing to complete after flowing at estimated rate of 5-million cf/d of gas on test at 5,542-69 ft.

- Solano County — McCulloch Oil Exploration Co. of California No. 1 McCulloch-Macson-Scally Unit, sec-

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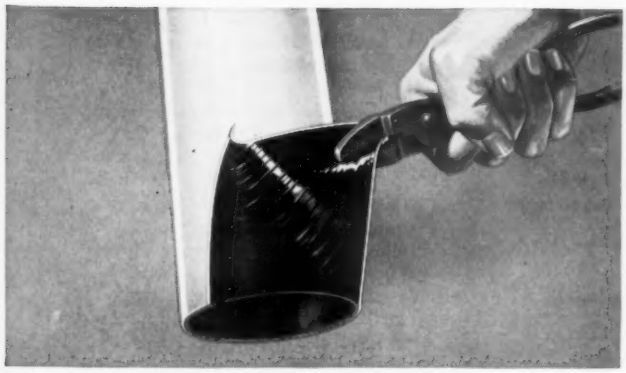
Joining and suspending thousands of feet of sucker rods in oil wells on "artificial lift" calls for parts that must withstand severe static and dynamic loads, to more than 40,000 psi. Republic Cold Finished Alloy Steel Bars provide the strength and stamina required of the couplings to meet these demanding service conditions with margins to spare.

This fine steel provides an outstanding combination of qualities essential to designing smaller sections to carry or move heavier loads with no sacrifice of strength or safety. Add to this the advantages of the cold finishing process and you have a material that offers strength, hardness, machinability, size and cross-sectional accuracy, smooth bright surface, absence of scale, and close tolerance straightness.

Learn first-hand how Republic Alloy Steels enable manufacturers to produce better oil country equipment that provides dependable, economical day-in, day-out service. Call your Republic representative, or mail the coupon.



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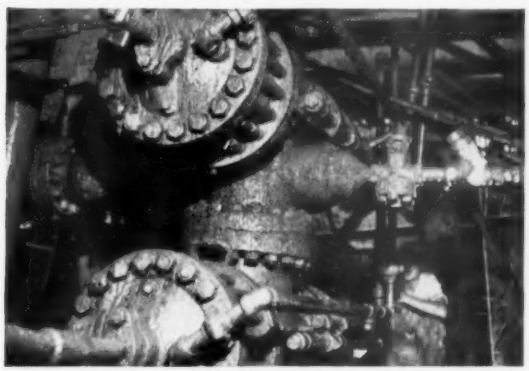

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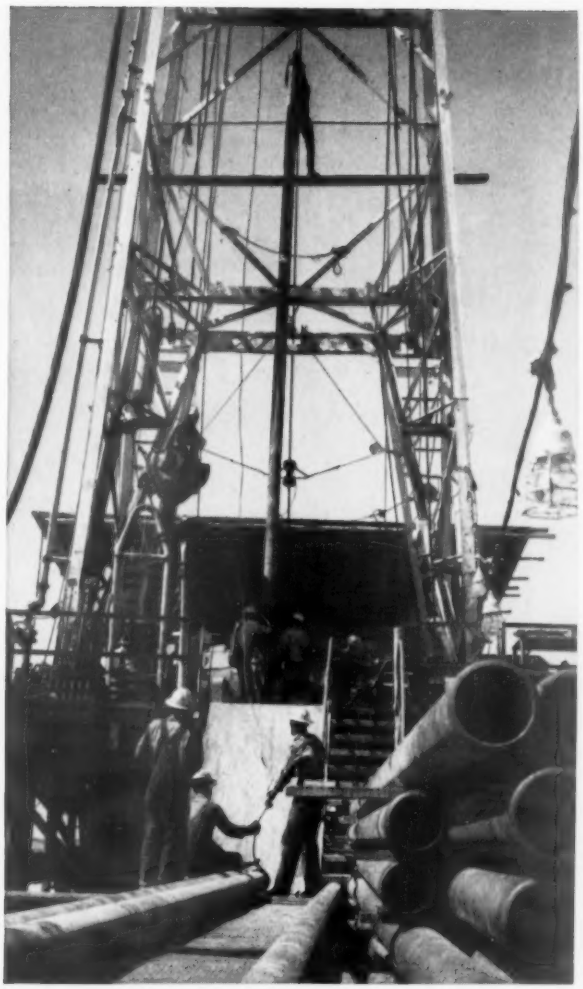

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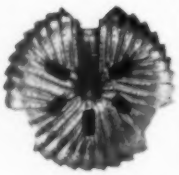

DRILLS 2814' IN 13000' WELL WITH ONE TRIP

In Kenedy County, Texas, a *single* Hycalog V-Door 6⅞" bit stayed on bottom from 10,186' to 13,000' T.D. Drilling time was 791.75 hours with an average rate of penetration of 3.55 ft./hr. Conventional bits drilling in this section could do no better than 3 ft./hr. and replacements were *frequent*.

You won't have to do much figuring to estimate the enormous savings in bit cost, in long round trips and rig time.

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BRANCH OFFICES IN PRINCIPAL OIL PRODUCING AREAS

DIAMOND BITS DIAMOND CORING
WELL LOGGING CORE ANALYSIS

tion 10-4n-1w, Potrero Hills, drilling below 8,198 ft.; Kern Oil California, Ltd., No. 1 Stewart, section 7-4n-1e, Denverton area, drilling below 4,350 ft.; and G. E. Kadane & Sons No. 10 Standard-Suisun Community, section 31-4n-1w, Suisun Bay area is rigging up.

• Sonoma County—C. H. Chamberlin No. 2 Mangel, section 30-4n-5w, Petaluma area, drilling below 1,550 ft.

And just last week, Trico Oil & Gas Co. No. 1 Faria Unit, section 21-2n-1w, Los Medanos, was completed for 4.3-million cf/d of gas through perforations at 1,717-1,777 ft.

General Petroleum Corp.'s No. 1-A Sprague-Lewis Unit, also was completed last week for 19.7-million cf/d of gas through 74/64-in. choke and perforations at about 3,400 ft.

Other independents are also reported to be grooming entries in the gas sweepstakes.

Brazos Oil & Gas Co. is planning to drill in Sacramento County; Franco Western Oil Co. has been identified with drilling plans for Colusa County; Great Basins Petroleum Co. and Porter Sesnon plan further activity in San Joaquin and Stanislaus Counties; and Artnell Co. plans exploration in Yolo County.

If the success ratio follows last year's trend, 1959 could be a banner year for discoveries in the Sacramento Valley.

Of 82 exploratory tests drilled last year, 18 were completed. Of these, 2 opened new fields, 12 found new pools, and 4 were classified as field extensions. Majors chalked up 5 of the completions, and independents 13.

Production was developed from depths ranging from 2,370 ft. to 6,750 ft. Pays include the Paleocene, tapped by 3 wells; Eocene, 8 wells; and Cretaceous, 7 wells.

Addition of the two new fields brought to 49 the number of gas producing fields in the valley.

Hopes for an oil discovery are presently lying dormant in the rush to develop gas production. There is little doubt, however, that oil plays will be revived at a later date.

Among unsuccessful deep tests drilled to date in the Sacramento Valley oil search are General Petroleum's No. 65-10 Glide Court, section 10-7n-3e, in the Saxon area, Yolo County, abandoned at 15,299 ft. in 1955, and Humble's No. 1 Mary Tippetts, section 15-12n-3e, Rumsey Hills area, Sutter County, abandoned at 15,298 ft. in 1957.

Saskatchewan Oil Gets New Market

A substantial new market has been found for production from two big southeast Saskatchewan fields—Weyburn and Midale—but at slashed wellhead prices.

The new outlet is created by a contract between Canadian Oil Companies, Ltd., one of the operators in Weyburn field, and Gibson Petroleum Co., Ltd., a crude purchasing organization. The contract calls for 11-million bbl. of oil for Canadian's Sarnia (Ont.) refineries over the next three years.

Beginning in July, delivery from the two fields to the Sarnia area will be approximately 10,000 b/d.

The crude will be delivered to the Sarnia area by way of the Trans-Prairie Pipe Lines, Ltd., Westspur Pipe Line Co., and Interprovincial Pipe Line Co. systems.

Saskatchewan sour crudes of the type produced from Weyburn and Midale fields already are well established in refineries at St. Paul and Wrenshall, Minn., and Superior, Wis., as well as at Clarkson, Ont. But this will be the first time it will be used at Sarnia.

Purchases will go up almost 100%, but the price to be paid will be as much as 37½¢ per bbl. lower than producers have been receiving in existing markets in the Minnesota-Wisconsin area.

The offer for crude to companies operating in Midale and Weyburn fields under the contract reportedly is $1.635 per bbl. for Weyburn crude, $1.625 for Midale A, and $1.595 for Midale B.

Current prices in the fields, posted by Great Northern Oil Co., of Regina, Sask., are $1.975 per bbl. for Weyburn, $2 per bbl. for Midale A, and $1.97 per bbl. for Midale B.

How many companies will participate in the new agreement is not known, since several producers in the two fields strongly oppose sales at the lower prices.

So far, Canadian Oil is the only company to agree to the new prices.

Unconfirmed reports have it that other refiners, including Cities Service Oil Co., at Bronte, Ont., are also considering use of Midale-Weyburn type crude.

Earlier this year, operators in the two fields lost an appeal for proration of medium-gravity crude in Saskatchewan in an attempt to increase their production (PW—Mar.6'59,p24).

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—From the 1958 Annual Report

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ESSO

Gas Paces Ohio Activity

Look for even greater emphasis on exploration and development of gas in Ohio this year.

George G. Shearrow and Theodore A. DeBrosse, in the Ohio Geological Survey summation this week of 1958 activity, add, however, that over-all drilling will continue at a lesser rate.

Gas production last year was 1.6-billion cu. ft. higher than in 1957, totaling 33.8-billion cu. ft. Oil production topped 1957 by nearly 1-million bbl. in climbing to 6.5-million bbl.

Of a total of 1,168 holes drilled last year, 260 resulted in gas production, 238 in oil, and 354 produced both gas and oil. The dry-hole count was 316, for a 73% success ratio. Total footage was 2,779,243 ft., averaging 2,379 ft. per hole.

Exploration for Clinton gas in Ashtabula County is expected to increase this year, and perhaps spread into neighboring Portage and Geauga Counties.

Twelve holes were drilled in the county last year, resulting in five gas producers, four oil and gas producers, and three dry holes.

Just two holes were drilled in Geauga County, one of which produced gas, with the other being dry. But in Portage County, five tries resulted in four gas producers.

Coshocton County, in the northeast quadrant of the state, however, continues to pace the state in all departments.

Of the 156 holes drilled in the county last year, 24 produced gas, 34 produced oil, 71 produced both gas and oil, and 27 were dry holes.

Next in line in number of holes drilled were Wayne County, 149; Ashland and Perry Counties, 84 each; Licking County, 83; and Holmes County, 82.

The Clinton sand of the Lower Silurian—the most popular target in the state—accounted for 642 of the 1,168 holes drilled last year.

Of the Clinton tests, 112 resulted in gas, 98 in oil, 317 in both gas and oil, and 115 were dry.

Chances are there will be more interest in the deeper horizons this year.

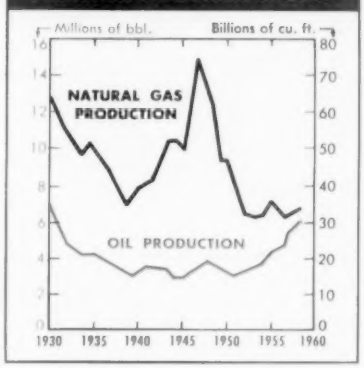
Shearrow and DeBrosse say the deeper potentials below the middle Ordovician need to be explored, especially where deep structures are known to exist.

This holds true for the entire state, they say, since just 23 holes have penetrated the entire sedimentary sequence.

And, they add, the active leasing trend in Fulton and Williams Counties of northwest Ohio could lead to discoveries in the Trenton, or even deeper horizons.

"Although the Trenton fields were discovered in the 1860s and 1870s," they report, "exploration beyond the limits of the Findlay-Lima fields has been negligible."

Petroleum Production in Ohio



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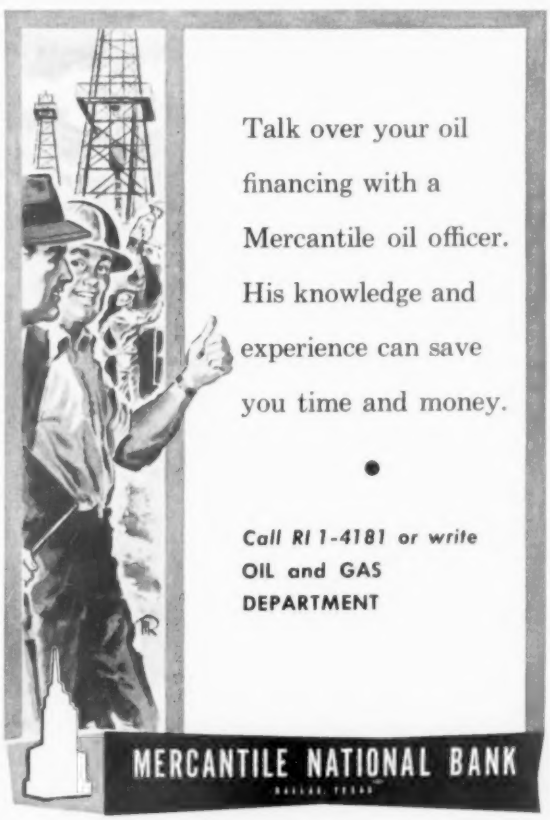
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World Geophysical Activity Drops

Total worldwide geophysical activity fell 7.7% in 1958 compared with 1957—primarily reflecting a big drop in the U. S.

This is shown in a report this week by the Committee on Geophysical Activity of the Society of Exploration Geophysicists. Part of the report—dealing with U. S. activity—had already been published (PW—Mar.13 '59,p59).

The report, prepared under the supervision of Humble Oil & Refining Co.'s Homer Patrick, committee chairman, shows that there was a total of 12,601 crew-months of geophysical activity in 1958, worldwide. This compares with 13,653 crew-months of activity in 1957. The 1958 total was the lowest since 1954.

Seismic crew-months dropped from 11,248 in 1957 to 10,326 last year, a reduction of 8.2%. Gravity and magnetic prospecting also fell, but other methods increased, the report shows.

Gravity crew months dropped 4.6%, from 1,954 to 1,864. Magnetic crew-months took the biggest dip, dropping 43.5%, from 400 to 226.

"Other methods," however, jumped from 51 to 185, for a whopping increase of 262.7%. These methods consist of telluric current, electrical resistivity, radioactivity, electromagnetic, and other types of electrical surveys.

The Eastern Hemisphere continued to close the gap between it and the Western Hemisphere, showing a 9.7% increase while the Western Hemisphere dropped 14.2%.

The report shows that a new high of 4,054 crew-months of geophysical activity was posted last year in the Eastern Hemisphere. This compares with 3,695 in 1957; 3,052 in 1956; 2,443 in 1955; and 1,593 in 1954.

The Western Hemisphere on the other hand, had a total of 8,547 crew-months, compared with 9,958 in 1957. It was the third straight year of decline from the 1955 high of 10,987.

Seismic crew-months totaled 3,077 last year in the Eastern Hemisphere, up 14.3% from the 2,692 in 1957.

In the Western Hemisphere, seismic crew-months in 1958 totaled 7,249, down 15.3% from the 8,556 in 1957.

Seismic exploration work in the Western Hemisphere accounted for 70.2% of the world's total seismic effort last year, compared with 77.3% in 1957, and 82.1% in 1956, further emphasizing the growth of such activity in the Eastern Hemisphere.

The decline in the Western Hemisphere total was due to drops in U. S. and Canadian exploration, offsetting a rise in South America.

The U. S. total of 5,731 crew-months in 1958 represented a 20.9% drop from the 7,242 crew-months in 1957. Seismic crew months dropped from 6,283 to 5,064, or 19.4%, in the same period.

Canadian figures show 1,130 geophysical crew-months in 1958, down 18.6% from the 1,388 in 1957. Seismic activity dropped 18.6%, from 1,308 to 1,065.

In South America, on the other hand, total crew-months reached 1,327 last year, compared with 973 in 1957, and 848 in 1956. Seismic totals were 876 in 1958, 688 in 1957, and 538 in 1956. Gravity work was up 72% last year over 1957.

The Soviet Union and its satellites reportedly increased geophysical activity during 1958, but proper statistical information is lacking, the report adds.

The SEG committee based its statement on what it called "unconfirmed reports."

A team of four Russian geologists reported to the World Petroleum Congress last week, however, that the number of "prospecting geophysical crews active" in the U.S.S.R. totaled 785 in 1958, of which 447 were seismic crews. This compared with 576 total and 321 seismic in 1956, and 436 total and 237 seismic in 1954.

The Russians reported that "the entire range of geophysical techniques in prospecting for oil and gas has exhibited proportionate development. The best results have been obtained when all of these methods are applied in judicious proportion."

They added that among the new geophysical instruments produced and used during recent years in Russia are the nuclear resonance magnetometer, the gravity gradiometer, the damped marine gravity meter, apparatus for the study of telluric currents, portable 24-channel seismic stations, apparatus for river and marine seismic prospecting, and instruments for controlled directional reception of seismic waves.

The Russians also predicted a continuation of the sharp increase in their geophysical activity in order to meet a production goal of from 6-million b/d to 7-million b/d, in addition to increased gas production, "within the next 15 to 20 years."

Quebec Gas Test Raises Hopes

Tests are continuing on what has been described "as one of the most promising natural gas finds in Quebec"—Bald Mountain Oil Co. No. 1 Batiscan, Champlain County.

This laudatory description of the find is provided by I. W. Jones, director of geological services for the province of Quebec.

The test, one of several drilled in the vicinity for and by Bald Mountain, is located on Lot 236, Range 1, Parish of St. Francois-Xavier de Champlain, in the St. Lawrence lowlands region between Montreal and Quebec City.

A strong gas show was encountered in middle Trenton (Ordovician) limestone at 2,198 ft.

Although the find was made a year ago, it was capped until late last April when further testing was resumed by Quebec Dept. of Mines engineers.

The shut-in pressure on the hole before it was opened was 830 lb.

After open flow was allowed for 35 minutes to release any accumulated gas, a reading taken with the gas flowing through a 3-in. pipe showed a rate of 3.2-million cf/d.

By the end of 48 hours of open flow, the flow rate appeared to stabilize at 680,000 cf/d. The valve was closed and readings were taken as the pressure began to build up. The pressure rose more than 400 lb. in the first five hours. At last report, this testing was continuing.

The St. Lawrence lowlands—the area of the strike—geologically comprise a strip on both sides of the St. Lawrence River (PW—Jan.11'57, p18).

The strip is bordered by the Laurentian uplands on the northwest, and the Appalachian and Adirondack highland masses to the south and southeast.

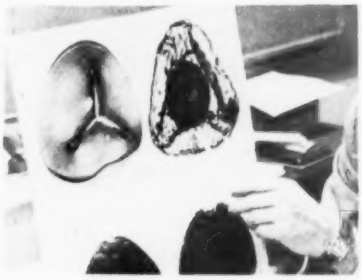
It is underlain by Ordovician sedimentary rocks, which have been deformed into a long, canoe-shaped syncline with an axis running from Quebec City to the U.S. border.

The formations thin out to the westward, and several distinct basal sandstones are found, each of which could serve as a reservoir, says T. H. Clark, head of geological sciences at McGill University, Montreal.

"This qualifies this region, on stratigraphic grounds," he says, "as a possible hydrocarbon producer and reservoir."

HIGH-POWER MICROSCOPE fitted with camera aids in identifying spore and pollen fossils that are no larger than a 50¢ piece after being magnified 1,000 times.

FIRST STEP in spore and pollen study is their removal from formation samples.



ENLARGED PHOTOGRAPHS illustrate spores (top) and pollen fossils.

Increasing: Palynology's Role in Oil

The reproductive parts—pollen and spores—of plants that flourished millions of years ago are growing more important in the search for oil.

The study of these microscopic particles is called palynology, which is a branch of paleontology, the broad study of fossils.

This study actually is not new to this country, having been introduced around 1933. The oil industry, however, became interested only about ten years ago. And interest appears to be gaining.

Spores and pollen don't leave much of a fossil to be traced, but their minute remains—viewed under powerful microscopes—can be found in cuttings and cores in ample quantities.

Humble Oil & Refining Co., for example, has found that the study of spores and pollen not only serves as a valuable helpmate to the more common study of fossils, but also has several other benefits.

First of all, the wind-tossed distribution of spores and pollen enables them to serve as age-defining geological marks in a world-wide fashion.

Too, the tiny parts of the plants have been found well preserved in ample quantities in places where ancient marine or animal fossils have been lacking.

Also, the tiny size of the pollen and spore fossils makes them much less susceptible to destruction from the drill bit than the larger conventional fossils.

Additionally, the armor-like coating on spores and pollen keeps them from dissolving in certain types of rock, unlike animal fossils.

The application of the study to actual field problems is expected to increase once the foundation or reference phase of the work is completed.

Dr. Stuart Levinson, head of Humble's paleobotany study, says that he and his workers presently are building a reference library of spores and pollen, but that gradually they will be able to shift their emphasis from background work to current field problems.

Humble's research team already has catalogued pollen and spore samples from 10,000 wells all over the world.

The ability of the spores and pollen to provide clues leading to the identity of formations has been especially helpful, says Humble.

In one case, a Humble production geologist was having trouble dating a formation encountered in a wildcat test. Electric logs failed to identify the rocks, and there were no animal or marine fossils.

The spore and pollen researchers checked the clues they found in a small sample of rock against enlarged spore and pollen photographs and were able to date the sediment correctly and to identify the formation.

In addition, the study already has proved itself as a reliable means for correlation.

In one case reported by Humble, the same types of pollen found at two different levels—5,000 ft. and 7,000 ft.—several miles apart proved the formations to be of the same age, and, more important, showed that the formation reached a local "high" in the vicinity of the shallow hole.

Another example of spore and pollen contribution is the time a Humble scout was stymied in his efforts to get information on a test being drilled by another company.

After the test was abandoned, the scout scooped up mud samples from the slush pit and sent them back to the laboratory.

There were enough spores and pollen in the samples to provide the scout with almost as much information on the test as the company that drilled the hole.

Pollen fossils have helped Humble workers trace sediments as far back as the Jurassic age, about 150-million years ago. The more primitive spores have been traced back to the Devonian age, some 350-million years ago.

Still older are the hystrichs, which date back 500-million years to the Cambrian age.

What's New / IN EXPLORATION, DRILLING, PRODUCTION

The American Assn. of Oilwell Drilling Contractors and the API Committee on Turbodrilling say the Russians prefer turbodrilling because they are more interested in speed than in lowest possible cost.

The groups, which drew their conclusions after talks with Russian specialists traveling in the U.S., declared:

"Given a choice of smaller number of days on location at a greater cost per ft. [vs. more days at lower cost], which is often the case with turbodrilling vs. rotary drilling, they do not hesitate to use the first solution, which is the opposite of what Americans would do."

The API-AAODC committee said that this is the main reason why more than 85% of holes drilled in the Soviet Union are drilled with turbodrills.

In the U.S., the group added, a much smaller percentage of holes will be turbodrilled, but that the technique will find useful applications, particularly in conjunction with use of diamond bits.

In a paper presented at last week's World Petroleum Congress in New York, the Russians reported increasing emphasis on cost-reduction in development work. The report said efficiency has been increased sharply in recent years due to wider well spacing and heavy use of waterfloods in the early stages of development.

•

Incomplete first reports on the bottomhole pressure survey in the Aneth area of Utah show declines ranging from 150 psi. to 350 psi. at some wells in operation since late 1958.

A reservoir test in November last year, though inconclusive, showed average pressures of about 1,600 psi. The latest tests started May 4 and lasted from three to five days, depending on pool area and success in obtaining readings.

Utah's Oil & Gas Conservation Commission will base its decision on the need for immediate waterflooding on the final reports (PW—May29'59, p38).

•

Livingston Oil Co. has acquired 34 producing oil and gas wells in Oklahoma's Ringwood field from Superior Oil Co., making it now the largest single operator in the field.

Price of the acquisition, which covers approximately 4,700 acres, was not disclosed. Livingston holdings now total 91 wells on about 9,850 productive acres. The company has started a $1-million, 15-hole drilling program on undeveloped leases in the area.

•

A bill raising to 80 acres the spacing of oil wells between 5,000 ft. and 9,990 ft. deep is now before the Oklahoma House of Representatives.

Advocates of the bill—passed by the state Senate last week—contend that it will make certain potential oil areas in Oklahoma competitive with Texas.

Opponents say the bill is sponsored by major oil companies and will work against the interests of small royalty owners.

Currently, 40-acre spacing is in effect for wells of this depth.

•

New leasing regulations announced last week by the Interior Dept. require full information on anyone involved in any assignment or subleasing of federal oil and gas leases.

The new rules provide that, before assignment of sublease of a federal oil and gas lease can be approved, the person obtaining the lease must furnish a statement that he is the sole party in interest in the assignment of sublease.

If he isn't the only person involved, he must divulge names of other parties and extent of their interest.

This information always has been required in initial acquisition of leases, but only informally in case of assignments and subleases.

•

Ambassador Oil Corp. has bought a 50% working interest in 46 producing oil wells in Lea County, N.M., and a fractional interest in 110 wells involving 37 producing properties in Texas and six other states.

Price was not disclosed.

The 46 oil wells are located on 2,140 acres in the Langlie-Mattix and Penrose-Skelly areas of Lea County. They were acquired from Gulf Coast Western Oil Co. and J. C. Clower.

The interest in the 110 wells was purchased from the Phillip D. Armour Estate, Chicago. They are located in Texas, Oklahoma, New Mexico, Kansas, Colorado, Montana, and North Dakota. The bulk of the production is from Texas acreage.

•

Rayflex Marine Inc., a new offshore exploration company offering a three-way combination of known techniques under the trade name of Omni-Search, has been organized in Dallas.

The three techniques are: (1) detection and analysis of marine seeps; (2) continuous near-surface profiling using sonic reflections; and (3) geographical positioning using shore-based microwave stations.

The new concern is a joint venture of Rayflex Exploration Co. and Scientific Laboratories, Inc., of Dallas. M. C. Kelsey, president of Rayflex Exploration, is also president of the new company.

•

Because of increasing exploration and production in the Montana-Wy-

TV to Show the Perils of Wildcatting

Starting June 25, the nation's television viewers will get a chance to see for themselves the risk and cost involved in wildcat drilling.

The Dave Garroway "Today" show will look in on a wildcat operation near Enid, Okla., on the mornings of June 25, July 2, 16, and 30, and Aug. 13 and 27.

Garroway interviewers will cover the wildcat from every angle, talking with the Big Chief Drilling Co. crew, the geologist, the landowner, and Carl and Henry Gungall, the major investors in the venture.

The audience will be kept informed on the depth, the rock strata encountered, the mounting cost, and the risky economics involved.

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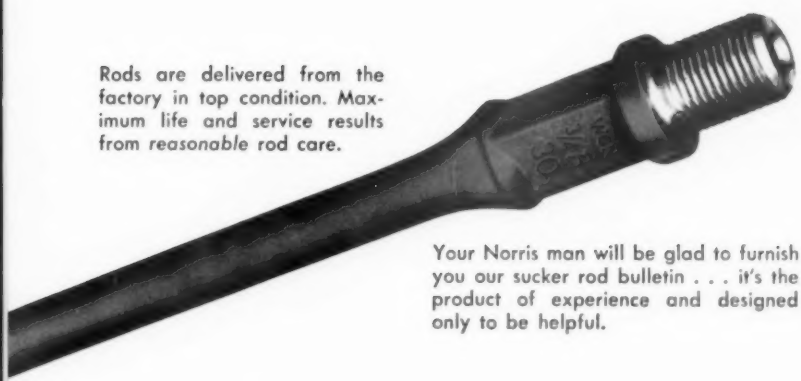

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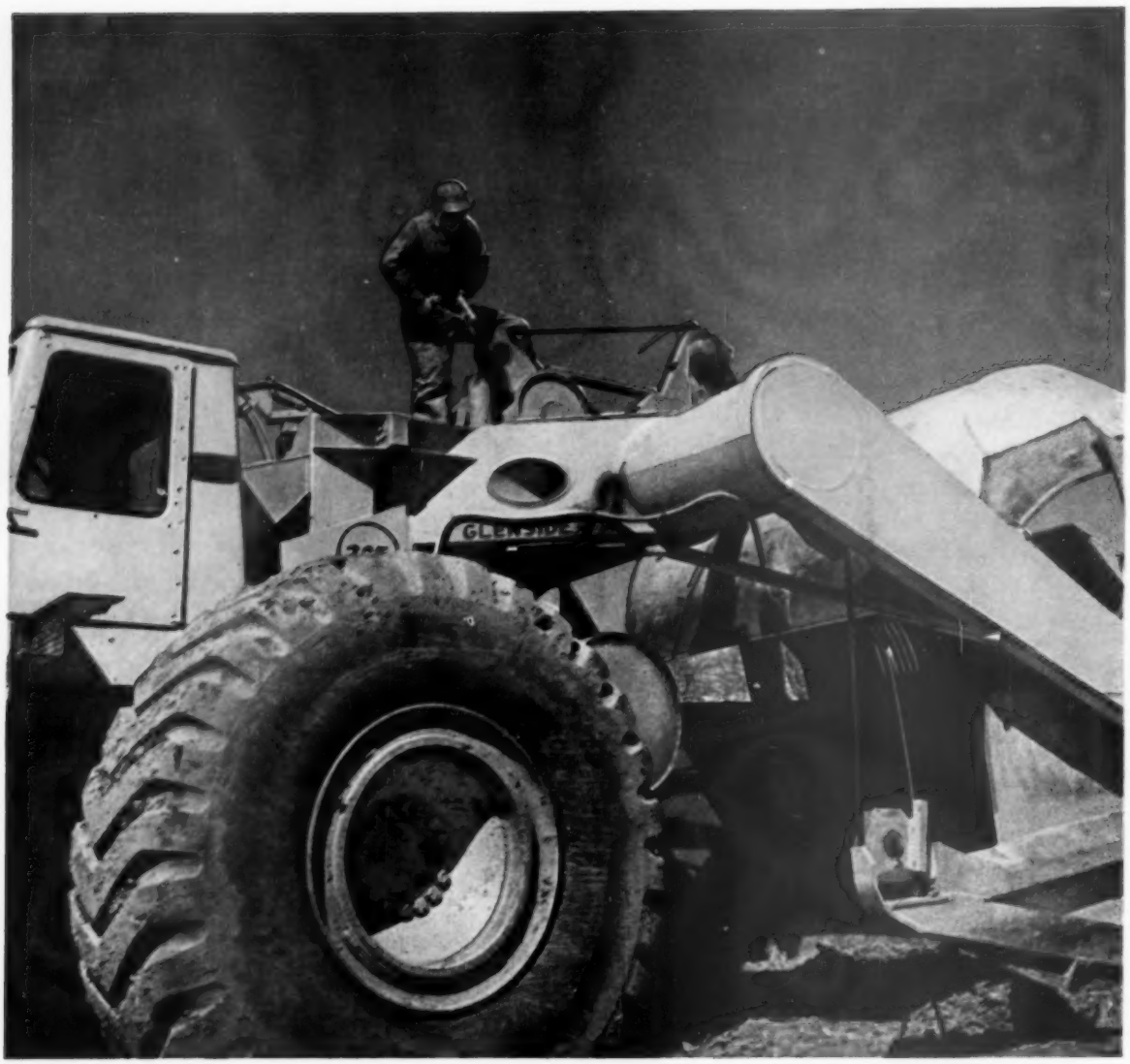

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IN CANADA: SUN OIL COMPANY LIMITED, Toronto and Montreal

oming area, Shell Oil Co. is eliminating its Tulsa production division and consolidating its functions with the Denver division.

The move, which will affect 200 employees, will be completed by September.

Shell Pipeline Corp.'s Tulsa division will remain.

•

Oil operators are continuing to step up water injection to arrest subsidence and increase recovery in the Wilmington (Calif.) field.

A total of 45 injection wells are now being used to inject 210,509 b/d of water in the field. This compares with an injection rate of 121,681 b/d at the end of last year.

•

The Louisiana Gulf Coast Oil Exposition, at Lafayette, will be held Oct. 8 through 11.

The annual exposition, largest in the Gulf Coast area, will cap centennial celebrations in the state.

•

Engineering

A new shaped charge for steelcase retrievable jet guns has been introduced by Perforating Guns Atlas Corp.

J. H. LeBus, chief engineer, says the new "Atlas-Jet" charge should be of particular value for those wells in which deep penetration and exceptionally large and clean hole size are of major importance. He reports that the weight of the explosive in the charge has not been increased.

•

Drilling Highlights

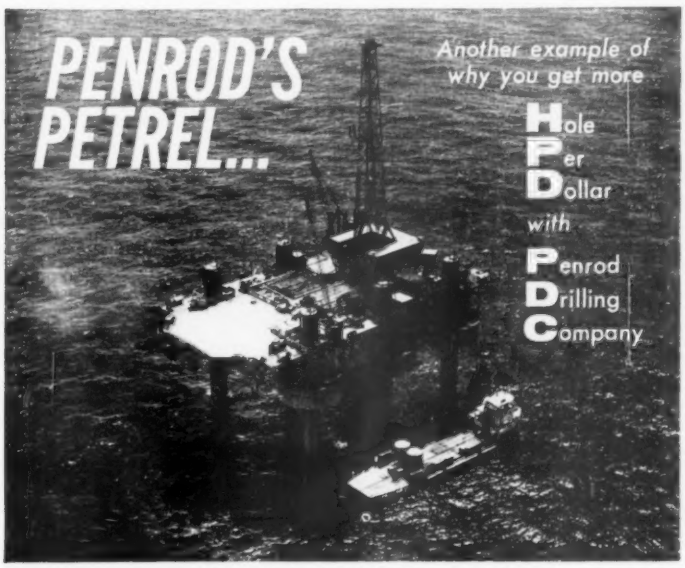
New Mexico—J. C. Barnes Oil Co. No. 1 Humble-State, section 27-12s-34e, Lea County, flowed 253 bbl. of 39.7-gravity oil in 21½ hours through 20/64-in. choke and perforations at 10,290-334 ft. and 10,340-58 ft. in the Pennsylvanian. The discovery is located 2 mi. southwest of the Ranger Lake field.

Alberta—Atlantic Refining Co. No. 6-16 Marlboro, lsd 6-16-55-18w5, 6 mi. southeast of Pine Creek field, was completed for 157 b/d through ¼-in. choke and perforations in the Leduc D-3 reef at about 10,835. The discovery is the first on a 34,500-acre block owned jointly by Atlantic, Ohio Oil, Canadian Petrofina, Pan American, and Hudson's Bay.

Wyoming—Petroleum Inc. and Mobil Producing Co. No. 1 Cordell, section 8-51n-68w, Crook County, recovered 5,500 ft. of oil on 2-hour drillstem test of the Dakota at 5,982-6,007 ft. Recovery included 50 ft. of oil- and gas-cut mud. The wildcat, scheduled to the Morrison at about 6,200 ft., is 4½ mi. southwest of Muddy production at Moorcraft and 9 mi. north of Dakota production at Donkey Creek field.

Oklahoma—Livington Oil Co. No. 1 Keck, section 14-21n-12w, Major County, flowed 7.5-million cf/d of gas with 20 bbl. of distillate per million through ½-in. choke and perforations at 6,788-820 ft. Open flow potential was estimated at 20-million cf/d. The discovery is 7 mi. southwest of Ringwood field.

East Texas—W. R. Hughey No. 1 F. D. Connell, Joseph Ferguson survey, Limestone County, flowed 3.2-million cf/d of gas plus 28 bbl. of distillate per million through perforations at 6,692-98 ft., 6,724-27 ft., and 6,730-36 ft. in the Rodessa. Operators are also completing in the Pettit through perforations at 7,256-66 ft. and 7,272-76 ft. The dual gas-condensate discovery is 4 mi. southwest of Oletha gas field.



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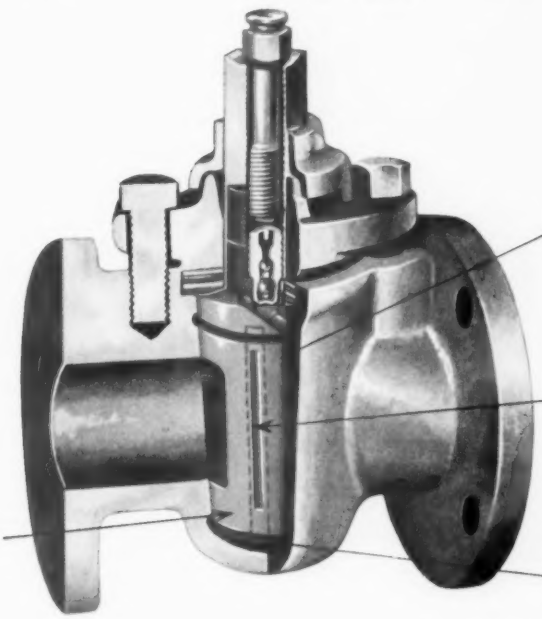
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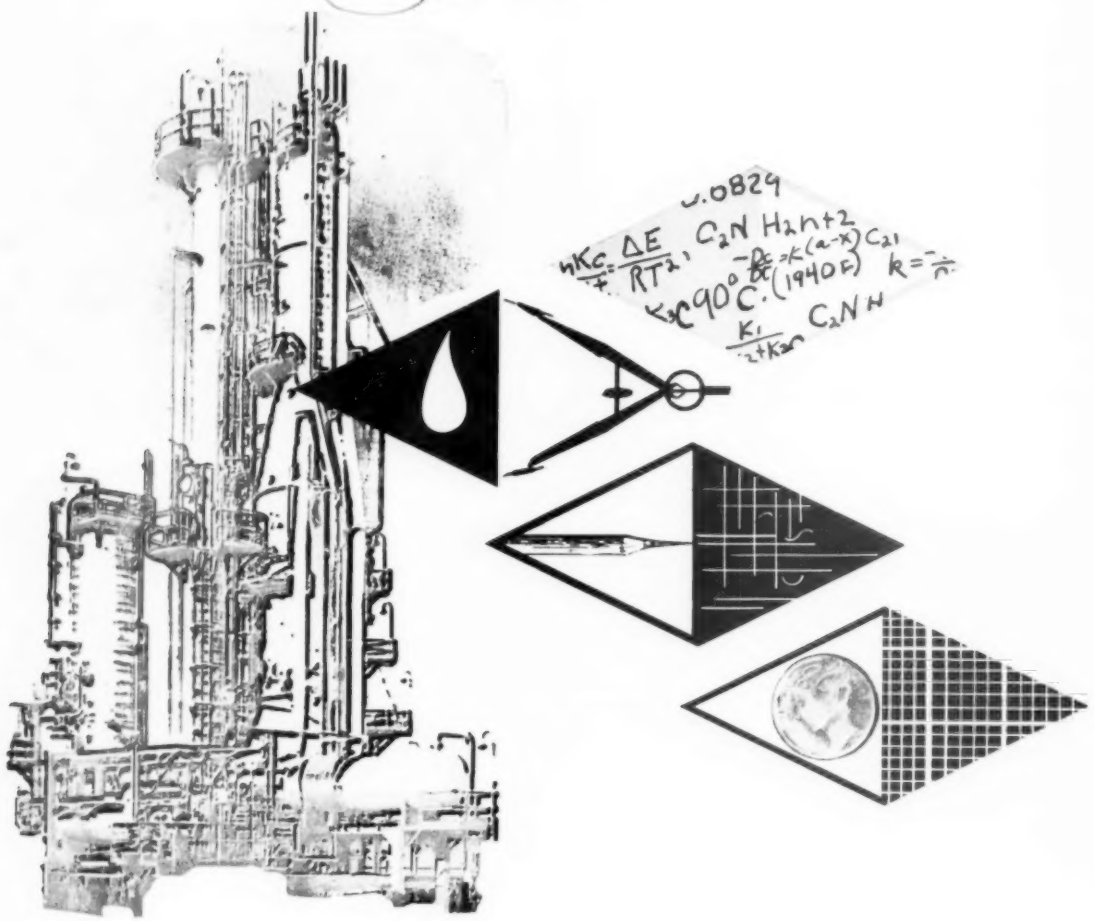

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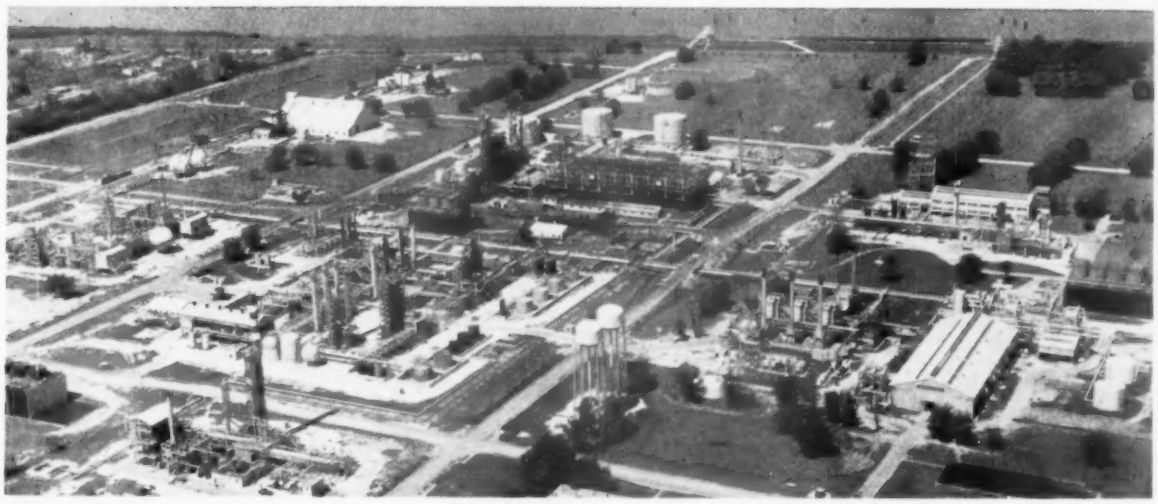
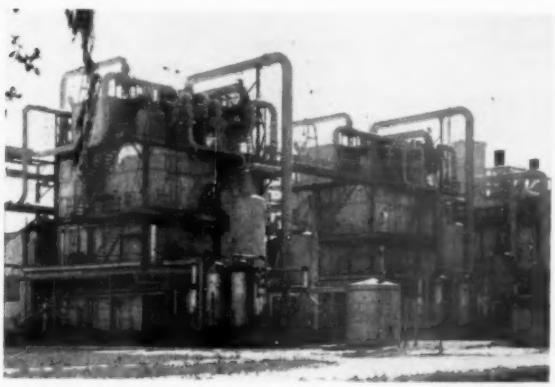


AERIAL VIEW of Fortier (La.) plant of American Cyanamid Co., where 100-million lb. of acrylonitrile can be made yearly for shipment primarily to fiber manufacturers. Natural gas supplied by Texaco Inc. is used as raw material.



THREE OXYGEN PRODUCERS with a total capacity of 850 tons a day separate oxygen from air. The nitrogen is also used.

HYDROGEN CYANIDE, prepared in these two reactors, plays an essential part in the manufacture of acrylonitrile.

Demand, chiefly for fibers, soars, so . . .

Cyanamid Doubles Acrylonitrile Capacity

The final step in the development of one of the largest petrochemical plants in the country has been completed at the 650-acre acrylonitrile plant of American Cyanamid Co., at Fortier, La.

The plant was originally built to produce 50-million lb. per year of acrylonitrile. That capacity has now been doubled.

The plant was designed and built by Chemical Construction Corp., which at the time of the original work was a subsidiary of American Cyanamid. The second stage, under supervision of the engineering division of American Cyanamid, was likewise handled by Chemical Construction, which, in the meantime, had been acquired by Electric Bond & Share Co.

Acrylonitrile is made at Fortier by the catalytic combination of acetylene and hydrogen cyanide.

The raw material for the operation is natural gas, which Cyanamid gets from Texaco Inc.

Acetylene is produced under a Badische Anilin & Soda Fabrik license, by reaction of oxygen with the methane contained in the natural gas.

The successive steps in the preparation of acrylonitrile are:

(1) Separation of oxygen and nitrogen from the air. This is done in three huge units, capable of producing 850 tons a day of oxygen by the conventional separation method.

(2) Reaction of the oxygen with the methane of the natural gas, to make acetylene. This process generates a huge quantity of hydrogen.

(3) Reaction of the hydrogen thus obtained with the nitrogen from Step 1, to make synthetic ammonia.

(4) Reaction of the ammonia with natural gas over a platinum catalyst at relatively high temperature, to produce hydrogen cyanide.

(5) Reaction of acetylene and hydrogen cyanide, over a catalyst, to make the acrylonitrile. The catalyst is

a mixture of cuprous chloride, caustic chloride, and hydrogen chloride.

(6) Absorption of the acrylonitrile in a solvent, to separate it from the impurities caused by side reactions during the catalytic process.

(7) Fractionation, to recover the purified acrylonitrile.

The hydrocarbons in the natural gas which are not used during the reactions are used for fuel.

Acrylonitrile is used mostly to make synthetic fibers. So, for that purpose, the major part of the Fortier production is shipped in tank cars to the Cressland plant of Cyanamid in Pensacola, Fla., and to other fiber manufacturers. The acrylonitrile used for the purpose must be very pure, Cyanamid engineers say.

Acrylonitrile is also used for the preparation of synthetic rubber and latexes, and as an intermediate for the making of plastic molding compounds, flocculation agents, and coatings for the paper industry.

The production of hydrogen cyanide does not effect a complete conversion of the ammonia to cyanide, and a great excess of ammonia is available. This is converted into ammonium sulfate by treatment with sulfuric acid, which is also made at the Fortier plant.

The plant is now running without any difficulties, according to the Cyanamid engineers. The normal adjustments inherent to a new plant, which had somewhat delayed operation of the original portion of the plant, did not occur when the extension went on stream.

Additives Research Shifts Into High

Research in the field of additives—chemicals added to petroleum products to impart to them certain essential qualities—is growing steadily, to meet the need for new applications in an ever-increasing variety of petroleum products.

The manufacture and sale of additives is an enormous business, and it's increasing every year. In 1959, nearly 2-billion lb. of additives will be used by the petroleum industry, at a cost exceeding $617-million. Conservative estimates indicate that, by 1965, these figures will increase by at least 25%.

Additive research is being actively carried on abroad as well as in the U. S. This is evidenced by the many reports presented at the 5th World Petroleum Congress, stressing the importance of additives. These cover the entire field, from additives for heavy fuel to prevent corrosion in boilers and gas turbines, to those added to lubricating oils to improve their stability and lubricating qualities, to additives to enhance the quality of gasoline.

The U. S. oil industry spends currently about $21-million a year on additive research, or $2.70 for every b/d of refinery capacity. On top of that, the chemical industry spends some $10-million a year on additive research. These figures, says William B. Plummer, of the Commercial Chemical Development Assn., were obtained as a result of a survey conducted especially for the recent meeting of that association at Mt. Pocono, Pa.

Use of additives for motor and aviation gasolines totaled nearly 834-million lb. in 1958, at a cost of $330-million. This figure is expected to rise to at least 920-million lb. in 1965, W. A. Herbst, of Esso Research & Engineering Co. told the Mt. Pocono meeting.

The largest share of this consists of antiknock additives—basically tetraethyl lead, plus "scavengers" such as ethylene dibromide and ethylene dichloride. The balance consists of combustion-deposit modifiers (such as Shell's TCP); antirust agents; antioxidants (PW—May22'59,p31); metal deactivators, which counteract the adverse effects of traces of copper or iron in the gasoline; and dyes.

Projected into 1965, Herbst estimates that the demand for lead antiknock additives should be 868-million lb. for motor gasoline, but only 52-million lb. for aviation gasoline. The latter figure represents an expected decline of 43%, which evidences the decline of avgas in favor of turbojet fuels.

For fuels other than gasoline, the use of additives has now become the rule rather than the exception. In 1958, 14-million lb. of additives, valued at $8.6-million, were used in military and commercial jet fuels, kerosine, heating distillates, and diesel fuel, according to J. R. Kirk and Hobart Young, of Sinclair Research Laboratories, Inc.

These additives include: corrosion inhibitors, which coat the steel surfaces with a protective film only a single molecule thick; metal deactivators; antioxidants; pour point depressors (polymeric materials that change the crystalline properties of the wax in the fuels); and cetane-number improvers for diesel fuel.

The value of additives introduced at the point of manufacture in residual fuels has not been established to everyone's satisfaction. Certain additives, such as ash modifiers, to prevent deposits on boiler tubes, or corrosion in boilers and gas turbines, are usually introduced in the residual fuel at the consumer's level.

"The increased demand for distillate fuels will not only assure an expanding market for the additives now used, but will open promising new areas into which additive research might be expanded," said Kirk and Young.

There are needs for many new types of additives in the field of fuels other than gasoline. They include: additives to give to the fuels greater stability at high temperatures; additives to control the amount of moisture that jet fuels absorb in storage or in flight, a frequent cause of accidents; freeze-point depressants; additives to avoid static electricity in fuel tanks; additives to enable cold starting of diesel engines, exhaust-odor improvers; and oiliness agents for jet fuels, to avoid leakage and to reduce equipment wear, when a low-viscosity distillate is used.

There will be 683-million lb. of additives used in motor lubricating oils in 1959, representing a value of $150- to $175-million, Geo. L. Weaner, of California Research Corp. told the Mt. Pocono meeting.

These additives are used, in various proportions, for gasoline and diesel engine lubricating oils of different grades, for the "multigrade" motor oils, and for oils in specific applications, such as railroads, outboard engines, light aircraft, and others.

Almost half of all additives for motor lubes are of the conventional detergent-dispersant type, which prevent deposits on vital metal parts of the engines. Others are used to improve the viscosity index of the lubes, to impart to these lubes extreme pressure resistance, to depress their pour point, to prevent oxidation and corrosion of the metals with which the lubes come in contact, and to avoid the formation of foam.

Among the newest additives in the lubricating oil field, are the polymeric ashless detergents, A. L. Lyman and

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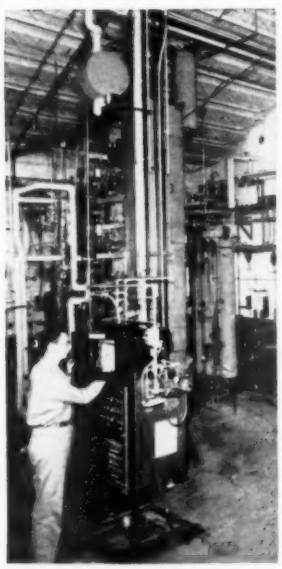

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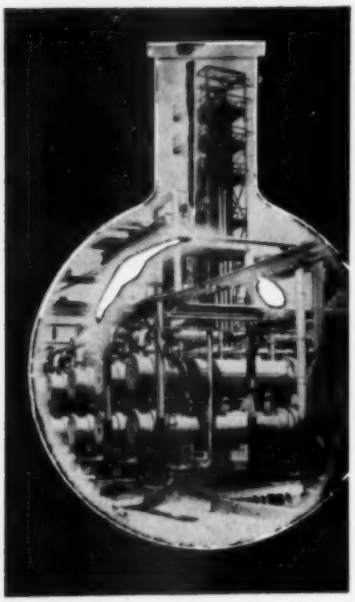

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F. W. Kavanagh, of California Research Corp., told the semiannual meeting of the Refining Division of the American Petroleum Institute.

These materials provide all of the favorable viscosity characteristics of the conventional V.I. improvers, and, in addition, are effective detergents under the conditions of stop-and-go city driving, where conventional additives are almost ineffectual. More effective ashless detergent oils can increase engine life substantially.

Additives for industrial applications amount to about 348-million lb. per year, representing a value of over $104-million, according to L. W. Manley, of Socony Mobil Oil Co., and A. W. Lindert, of Standard Oil Co. (Ind.)

In that category are listed the automotive and industrial gear oils, the automatic transmission fluids, the hydraulic fluids, including the fire-resistant types (PW—May15'59,p40), and many industrial nonlubrication products.

"It is doubtful," said Manley, "that any single lubricating oil is ever called upon to perform so many important functions and to meet so many critical requirements as the fluid used in passenger car automatic transmissions." For such fluids, although base stock is important, additives contribute substantially to a satisfactory formulation.

An estimated $75-million is spent annually for additives for such industrial applications as road oils, waxes, greases, and cutting oils. The use of such additives, "providing a lot for so little," is growing yearly, both in volume and in complexity, Lindert said.

Any new and unusual chemical, providing it possesses some degree of oil-solubility, is a potential additive, or a possible intermediate therefor, explained Fred C. McCoy, of Texaco Inc.

There is a growing trend for refiners to manufacture their own additives. But the chemical manufacturers may be able to offer at an attractive price organic additive intermediates, such as sulfonates, polyolefins, alkylphenols, and alcohols, which the refiners would otherwise have to make for themselves.

What's New / IN PROCESSING

Firestone and Goodyear have contracted with Petrobras to construct and install a synthetic rubber plant alongside the Brazilian government oil company's 90,000 b/d refinery near Rio de Janeiro. The American firms will finance the project, estimated to cost $6-million. The proposed 40,000 ton-per-year plant is scheduled for completion in late 1960.

•

A new formula developed by Ethyl Corp. now makes it possible to obtain greater accuracy and speed in calculating the octane number of a gasoline blend.

The calculations laid down by the new formula involve three consecutive steps which can be performed on either a desk calculator or a high speed computer.

Ethyl is computing ratings with an IBM-704 Fortran computer and an LPG-30 computer.

Ethyl scientists developed the formula after testing 166 components and 187 blends. It takes into consideration such factors as the research and the motor octane numbers of each component; the percentage of olefins and aromatics in the blend; and the "sensitivity" of each component (the difference between its research and its motor octane numbers).

Since the octane number of a blend is seldom equal to the weighted volumetric average of the octane numbers of its components, predicting ratings has previously been a tedious and time-consuming effort.

•

Pauley Petroleum Co., Long Beach, Calif., has acquired Newhall Refining Co., Newhall, Calif., at an undisclosed price. The purchase of the 2,400 b/d refinery marks Pauley's entry into the refinery field. A new fractionating tower, completed this week, will boost the plant's capacity to 3,600 b/d. Further expansion is planned.

•

A major expansion project to increase polyethylene production at Carbide Chemicals Co.'s Montreal East plant is now under way.

The improved facilities will give the plant an annual capacity of 65-million lb., an increase of 60% over previous output.

$175 Million in New Refineries

General Petroleum Corporation. Ferndale, Washington. 37,000 barrels per day. Initial operation, 1954.

Shell Oil Company. Anacortes, Washington. 50,000 barrels per day. Initial operation, 1955.

The Texas Company. Puget Sound Works, Anacortes, Washington. 45,000 barrels per day. Initial operation, 1958.

All three major refineries now operating in the U.S. Pacific Northwest were designed and constructed from the ground up by Bechtel.

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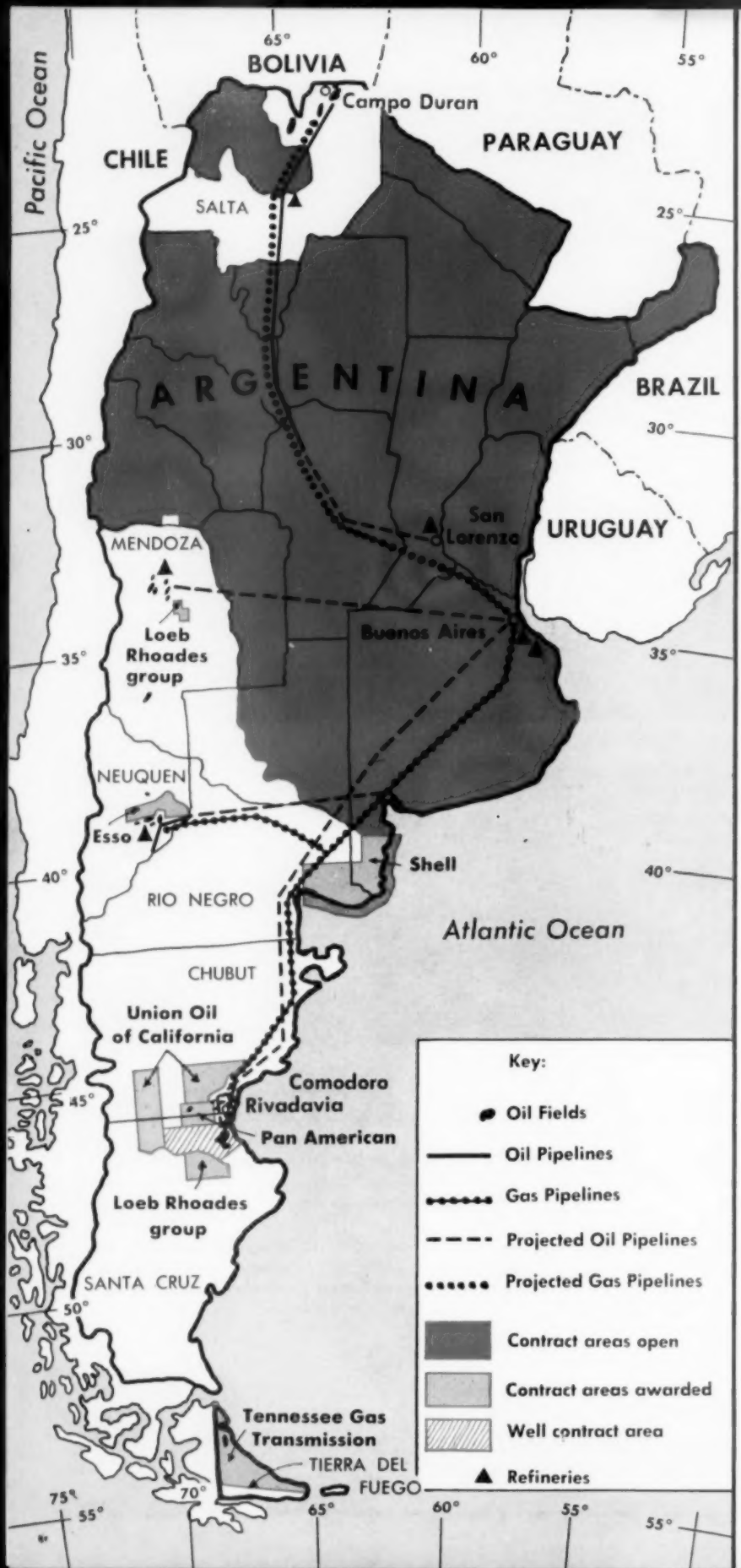


What's the

BUENOS AIRES—A year after opening its doors to foreign oil-company assistance, Argentina is getting its revamped oil development program off the ground.

In this short space of time, 17,850 sq. mi. of land have been awarded to one British and five U.S. companies for exploration, drilling, and oil development (table, page 50). This compares with only 190 sq. mi. of concession areas awarded to two foreign oil companies during the previous 50 years.

During the year, new foreign capital pledged for investment in Argentina's oil industry ran up to some $535-million. Of this amount, some $268-million has now been firmly signed up by Esso, the Loeb-Rhoades group (including Signal Oil & Gas and Union Oil & Gas of Louisiana), Pan American International, Union Oil of California, and Tennessee Gas Transmission. Another $44-million from Southeastern Drilling and Kerr-McGee Oil Industries for well drilling has also been contracted for with the Argentina government oil company, YPF (Yacimientos Petroliferos Fiscales), under short-range terms.

Just last week, another contract, valued at an estimated 100-million pesos, was signed with C. J. Simpson Drilling Co., Dallas, for drilling 300 wells in the "south flank" of Comodoro Rivadavia.

In addition, Shell has contracted to invest $28-million in oil exploration and development, and has pledged another $22-million for expansion of its Buenos Aires refinery. And an affiliate of Italy's ENI has contracted for $13-million worth of drilling.

Moreover, long-term equipment-purchasing credit offers have amounted to about $460-million—from Germany ($150-million), Britain ($140-million), the Soviet Union ($100-million), and France ($70-million).

To top it off, three U.S. companies—Koppers International, Texas Butadiene & Chemical International, and Fish International—plan to invest between $100-million and $141-million in the so-far negligible Argentine petrochemical industry.

The program will get an added lift on Aug. 4, when applications are opened on an international tender, throwing more than half of Argentina open to foreign oil development (map, left).

Outlook for Argentina's Oil Industry?

More than 30 companies are interested in the 630,000 sq. mi., according to YPF. The maximum area for one company for a 5-year exploration and 20-year development period is 77,700 sq. mi. If oil is found, the acreage is subdivided into 8,300-acre segments, to be shared with YPF in checkerboard fashion. All output will be sold to YPF as in the case of existing contracts (except Shell's).

YPF recently moved the opening date for bids back to Aug. 4 from July 2, to give "U.S. companies a chance to include dollar credits with their bids." (PW—May29'59,p88).

Between now and 1964, YPF estimates, over 10,000 wells will be drilled in Argentina, compared with a total of 6,877 drilled in the preceding 51 years.

YPF itself intends to drill 4,108 new wells by the end of 1964, and to subcontract to private (foreign) companies another 4,557 wells during the same period. In addition, YPF expects contracted foreign oil companies to drill 1,352 wells in their respective development zones.

With a big assist from foreign companies, Argentina hopes to reach oil self-sufficiency by 1961, and to be in a position to export some 68,000 b/d by 1964.

Dr. Horacio Aguirre Legarreta, president of YPF, told PETROLEUM WEEK that the combined output of oil and gas equivalent is slated to increase to 327,000 b/d by 1961, out of which YPF expects to contribute about 260,270 b/d. Here's a table of how output is slated to grow (in millions of bbl.);

Year	Production		Consumption
	YPF	Others	
1959	38.3	2.5	92
1961	95	25	110
1964	95	80	150

The stepped-up efforts have already started to pay off. There was a 30% boost in YPF output during the first four months of this year, compared with the corresponding period of last year.

YPF estimates that its total crude production this year will amount to 105,340 b/d. Adding gas equivalents and private-company output, the daily average is expected to reach 182,700 b/d.

In the midst of all these changes, YPF is undergoing a thorough reorganization in an effort to put itself on a paying basis.

"We are now engaged in a thorough revamping that will affect YPF from top to bottom," Dr. Aguirre told PETROLEUM WEEK. "We want to convert YPF into a business operating in the free-enterprise style."

In October, for the first time in its history, the state oil enterprise will issue a balance sheet to show the Argentine public and YPF employees where the company is making money, and where its weak points are, Dr. Aguirre says.

YPF has hired a local industrial consulting firm, Chapiro & Associates, which, with the help of Work Factor, Inc., of New York, will update YPF operations.

The state oil company itself laid the groundwork by adopting a new charter at the end of last year. It divides the company into three main departments—development, industrialization, and shipping—each of which is to carry separate accounts, establishing its own costs, profits, and losses.

Executive power is concentrated in the office of the general manager, Dr. Arturo Sabado, who makes company appointments, is responsible for the annual work program, decides the amount of development and investment budgets, and drafts the yearly over-all balance of the company.

A board of 14 directors, headed by Dr. Aguirre, as Argentine President Arturo Frondizi's watchdog, must approve these programs, and has sole authority to contract with Argentine and foreign companies for any transactions exceeding 40-million pesos (approximately $440,000 at the current free rate).

Observers say YPF's problem is three-pronged: lack of "experts," lack of organization, and lack of financing.

YPF, for example, employs only 10% of the Argentine geologists who are rated as "top oil men." And so far, the company has shunned U.S. or European expert help. (YPF employs some 35,000 technicians, administrative employees, and workers.)

To insiders and outsiders alike, YPF has often seemed in danger of bogging down under the sheer weight of bureaucracy.

Many of the offices in YPF's 13-story headquarters in downtown Buenos Aires are a jumble of porters, messengers, clerks, and secretaries. In addition, anyone in YPF—be it at the headquarters, the LaPlata refinery, or in the Tierra del Fuego loading port—needs at least 70 days to get a purchase order issued for a single screw. One outlying YPF powerhouse has been waiting for six years for a small spare part to get a laid-off turbine running again.

As to finances, no one in YPF knows, for instance, what it costs the enterprise to produce a gallon of gasoline.

Throughout the years, according to the YPF president's own admission, so much YPF money was siphoned off for other government projects that no one was able to keep track of where the money was going to—or coming from. Government sources continued to issue conflicting statements on YPF deficits.

When YPF issued $12.5-million worth of bonds in 1957 to help finance its "reactivation plan," it announced its capital as 6.5-billion pesos (some $360-million, according to the official 18:1 rate, valid at the time.)

The same announcement indicated that about $700-million would have to be spent to carry out the plan, which would bring self-sufficiency to oil-starved Argentina. No further announcements have been made since then, except for a statement at the beginning of this year that put YPF operating expenses for 1958 at $207-million. This left a deficit of $22-million—half of which was attributed to the financing of private investment projects.

Marcos Soifer, YPF development manager, told PETROLEUM WEEK that in 1957 the state gave YPF $29-million for purchases, plus $19-million in credits. Comparable 1958 figures were $40-million and $53-million, respectively.

To finance Argentina's goal of oil autonomy, oil circles in Buenos Aires estimate that the country will need between $1.3-billion and $2.3-billion. Projects worth some $925-million have already (or soon will be) contracted for by YPF. These will have to be paid for over credit-term periods ranging from six months to 30 years. A good chunk of it will go for some 1,780

mi. of new crude lines and 2,420 mi. of gas pipelines—to move new output, and to unlock shutin production in fields in the country's extreme north.

Here are some of the projects:

- $226-million for the gas and crude pipelines and auxiliary works from Campo Duran to Buenos Aires and to San Lorenzo. This is Latin America's biggest pipeline project; it's now under construction by a U.S. group, headed by Fish International.
- $230-million for a gas line from Comodoro Rivadavia to Buenos Aires, for which an international tender call has just been issued (PW—May29'59,p88).
- $150-million for the drilling of 4,500 wells by subcontractors ($57-million already contracted from Southeastern Drilling, Kerr-McGee, and a subsidiary of Italy's state oil company, ENI).
- $155-million for the drilling of 4,300 wells by YPF and Argentine subcontractors (still not awarded).
- $16-million for the purchase of 36 drilling rigs (mostly from Dresser Industries).
- $50-million for piping and casing from local industries.
- $30-million for a crude line from Challaco to Bahia Blanca.
- $38-million for a products line from Mendoza to Buenos Aires (to be built by the Loeb-Rhoades group).
- $20-million for expansion of the refinery at Lujan de Cuyo (by M. W. Kellogg).
- $10-million for well-finishing works (by Lane-Wells).

Dr. Aguirre has been traveling through the U.S. to continue credit negotiations for further help to pay YPF bills.

These negotiations, reportedly started by the recently ousted presidential advisor, Rogelio Frigerio, on his recent trip, are said to add up to over $100-million.

Part of the over-all outlay is slated to come through savings from reduced oil import bills—which, during the past five years, have averaged $198-million yearly, according to YPF's development manager. (The country's total foreign trade deficits during the same period averaged $199-million a year.)

YPF is planning a boost of almost 100,000 b/d in its 168,000 b/d refining capacity by 1961. A new 31,500 b/d cracking unit at Campo Duran and expansions of some existing units are now underway. Shell and Esso also plan to expand their own refineries, to hold their current 16.1% and 13.7% shares of the market.

Whatever YPF's future, it will be closely tied to the country's over-all political and economic situation—depending to a great extent on whether Frondizi succeeds in achieving stability.

If YPF were left on its own to put its house in order, many oil men here feel, it could pull through in a relatively short time. But Argentine oil is still a "sacred cow," and a bone of contention in political life. Frondizi has been staging a delicate balancing act with his new oil policy.

So YPF's otherwise clear business future is clouded by Argentina's political imponderables.

Here's How the Signed Argentine Contracts Shape Up

Company name	Type of contract (duration)	Investments ($-million)	Area	Payment terms	Comments
Standard Oil Co. (N. J.) (Esso)	exploring,drilling producing,pipeline (30-yr.)	Min: 23 in 6 yrs; Max: 47 in 10 yrs	1,853 sq. mi.; cut 50 % after 6th yr; 50% after 10 yr. (Neuquen)	$11.50 cu. meter up to 12,600 b/d; $11.25 12,-600-25,200; $11 aver 25,200 b/d	14-in., 23,310-b/d crude line Challaco-Bahia Blanca, $23-million 5% annually for 30 yrs.
Pan American International (Indiana Standard)	exploring,drilling producing,pipeline (15-yr, 5-yr option)	60 (minimum)	1,545 sq. mi. (Comodoro Rivadavia)	$10 cu. meter; 60% dollars, 40% pesos	300-400 wells; 125-mi. crude line Sarmiento-Com. Riv.; drilling subcontractor: Loffland Bros.
Carl M. Loeb, Rhoades group	exploring,drilling producing,pipeline (20-yr.)	100 (minimum)	138 sq. mi. (Mendoza) 2,077 sq. mi. (Comodoro Rivadavia)	50% of laid-in value of oil output until costs returned plus 15-20% of profits	12¾-in., 680-mi. products line Ludan de Cuyo-Buenos Aires; drilling by Kerr-McGee
Union Oil Co. of California	exploring,drilling producing (27-yr)	Min: 5 in 2 yrs; Max: 14 in 5 yrs	6,250 sq. mi. (Chubut, Santa Cruz)	$12 cu. meter; 60% in dollars, 40% in pesos	5 yr. exploring, 2 yr. drilling, 15 yrs. producing, 5 yrs. option
Tennessee Gas Transmission Co.	exploring,drilling producing,pipeline (25-yr)	Min: 10 in 3 yrs; Max: 20 in 10 yrs	5,404 sq. mi.; cut 40% after 10th yr.; 20% after 16 (Tierra del Fuego)	$11.15 cu. meter; 20¢ 100 cu. meter gas	12-mi. crude line to San subcontractor: Laughlin-Sebastian Bay; drilling Porter
Lane-Wells Co. (Dresser Ind.)	well servicing,completing,repairs	10	YPF's Comodoro Rivadavia field	.....	.....
Southeastern Drilling Co.	drilling (3-yr)	25.2	Comodoro Rivadavia field "south flank"	$19 hole-meter, plus $50 per hr. of finishing	1,000 wells, 60% dollars, 40% pesos (15% freely convertible), 6 mos. after handing over wells
Kerr-McGee Oil Industries, Inc.	drilling (3-yr)	18.7	Comodoro Rivadavia field "south flank"	$19.80 hole-meter, plus $50 per hr. finishing	500 wells
SAIPEM (Italy's ENI subsidiary)	drilling (3-yr)	13	Comodoro Rivadavia field "south flank"	$20.50 hole-meter, $50 per hr. finishing	300 wells: 62% in lire, 38% in pesos (25% convertible 65:1 rate) 4-yr credit, 8% interest
Astra S.A., (Buenos Aires)	drilling (2-yr)	1	Manatiales Behr, El Tordilla, YPF Com. Riv.	.....	30 wells
Shell Production Co. of Argentina, Ltd.	exploring,drilling producing (28-yr)	28 in 10 yrs	10,580 sq. mi.; cut 30% after 3rd yr.; 50% after 5th yr.	Costs in oil at intl. posted prices; balance shared equally, with 10% bonus to YPF up to $4.2-million	Shell grants YPF $50-million oil import credit, 4 yrs., 5% annual interest

Venezuela Bill Would Curb Oil Layoffs

CARACAS—A draft bill designed to curb layoffs of workers in Venezuelan industry has been introduced in the Chamber of Deputies amid exaggerated charges of "massive layoffs" in the oil industry by labor leaders.

The bill, known as the Employment Stabilization Law, would require prior approval of Labor Ministry inspectors for layoffs exceeding 20% of a company's total payroll in any three-month period.

It would also require authorization for layoffs exceeding 120 workers in any three-month period, regardless of the size of the company's payroll. Infractions would be penalized by fines up to $3,000.

The bill was introduced by Social Christian Deputy Aristides Calvani, and backed by members of Venezuela's two other major parties.

Labor leaders have recently launched ambiguous charges of layoffs totaling 10,000 workers in the oil industry.

Minister of Mines & Hydrocarbons Juan Perez Alfonzo has publicly expressed skepticism on the charges. But he says that, in any case, his ministry is making a survey of the oil industry employment situation.

The law, if adopted, would affect primarily oil industry contractors and service companies rather than operators, who employ the bulk of Venezuela's 45,000 oil workers. Payrolls of operators are relatively stable: For example, one of Venezuela's major producers says it laid off fewer than 100 workers over the past year.

By contrast, payrolls of contractors and service companies may fluctuate widely.

Actual effect of the bill is difficult to predict because of the discretionary powers it would invest in labor inspectors. Drilling contractors point out that in the past they have had little trouble with inspectors on the question of layoffs—which are under supervisory provisions of the labor regulations already in effect.

Moreover, the bill is hedged with provisions requiring that the situation of the company be taken into account in each case, and establishing appeal machinery. The bill would authorize the President to increase or decrease percentage limits on layoffs by as much as 50%.

Authors of the bill say the purpose is not to freeze payrolls, but to soften the effect of layoffs by stretching them out in stages. The fact that the bill is supported by deputies of all three major parties indicates a good chance of passage, though not necessarily in its present form.

The number and variety of contractors makes it difficult to estimate the volume of layoffs in the oil industry here in recent months. But a sample calculation for drilling contractors, based on the number of rigs active, shows that they have reduced payrolls by 500 to 600 workers in the past six months, and by around 1,000 in the past year. Payrolls have also been cut by geophysical and service companies, marine transport firms, construction contractors, and others.

Oil companies are also faced with another problem: local validation of oil engineers, required by a decree issued last November. It's part of a drive by Venezuelan-born engineers for more recognition by having foreign engineers' degrees verified by a Venezuelan college.

So far, the oil engineers have not applied for revalidation, but oil companies are working out a program to comply.

What's New / AROUND THE WORLD

LEBANON—The joint agreement on transit fees last week between Lebanon and Iraq Petroleum Co. ended a bitter seven-year feud, and is seen by oil men here as a "good compromise." It meets Lebanon's claims for higher revenue halfway, without altering IPC's existing ton-mile transit formula.

IPC will now pay $3.5-million a year for pipeline transit and for offloading of 150,000 b/d of crude at the Tripoli terminal. This is about three times the former charge. In addition, IPC will pay $16.3-million, in a lump sum, as settlement of all past claims of the government, including transit charges since 1952.

IPC will also make available 20% of its Tripoli refinery's output to Lebanese marketers nominated by the government. The company will distribute an additional $100,000 annually to towns in which it operates, and will provide funds for a technical trade school in Tripoli.

•

IRAN—The Iranian government has opened another inland district, just north of the Consortium acreage, to bids for new oil rights between Sept. 1 and Nov. 1. This irregularly-shaped part of District 8 lies between District 14 on the north and the Consortium acreage on the south, and between longitude 51 and 54 on the west and east.

•

NIGERIA—Shell-BP Petroleum has signed a 30-year, 50-50 profit-sharing agreement with the government. Areas covered in the development rights are in northeast and west Nigeria.

The company immediately started paying a 12½% royalty on the value of oil produced instead of its previous flat rate of 56¢ a ton.

•

SENEGAL—A wet-gas discovery, flowing 1,271,000 cf/d, has been made in the city of Dakar, capital of this French West African territory. No. 3 Cap Vert, drilled by Soc. Africaine des Petroles, flowed wet gas from 4,291-314 ft. It also had a slight gas flow from 2,001-24 ft. This was the first indication of oil or gas here since exploration started in 1956.

•

North Africa and the Middle East are the two most promising areas for new oil finds, according to Ira H. Cram, senior vice-president of Continental Oil Co. He told a 5th World Petroleum Congress press conference last week that the Middle East is still "practically unexplored."

North African discoveries, which he termed the top geological events of the year, are particularly interesting because of their wide dispersal: "It's 1,000 mi. from Hassi R'Mel to Esso's new find in Libya—and that's bigger than Texas. The Esso find sounds like a limestone porosity of Middle Eastern flavor." Cram compared the limestone structures to the U.S. Gulf Coast area.

More Crude Lines May Play Dual Role

Look for more transportation of natural gas liquids in crude pipelines.

Many crude lines have periodically carried natural gas liquids—propane, butane, and natural gasoline. But in recent years, the operation has become quite restricted in use.

Now it's making a comeback.

Trans Mountain Oil Pipe Line Co. will be the next crude line to move natural gas liquids. Trans Mountain will begin carrying batches of such liquids in July from Edson, Alta., to Vancouver.

Trans Mountain is accepting tenders of natural gas liquids for the first time in its 5½-year operating history.

The company told PETROLEUM WEEK that "there is nothing temporary" about its forthcoming NGL movements from Edson to Vancouver.

Trans Mountain says such tenders "fall within our tariff, and they mean extra business."

Trans Mountain intends to send the natural gas liquids through the line in batches, rather than in a continuous flow which would mix with the crude.

The batch system makes necessary pressurized storage facilities at the Edson input station.

A special 47-mi. line from a Whitecourt (Alta.) natural gas liquids plant to Trans Mountain's Edson terminal, and special tankage at Edson, are already under construction.

The Whitecourt natural gas plant is being built by Pan American Petroleum Corp. and Canadian Petrofina, Ltd., both of whom have significant gas production in the area.

Hudson's Bay Oil & Gas Co., also a producer in the region, is building the Whitecourt-to-Edson pipeline.

The Whitecourt plant and the 6⅜-in. pipeline are both expected to be completed about the middle of next month. Initial deliveries to Edson are expected to be almost all natural gasoline. They should average about 2,500 b/d.

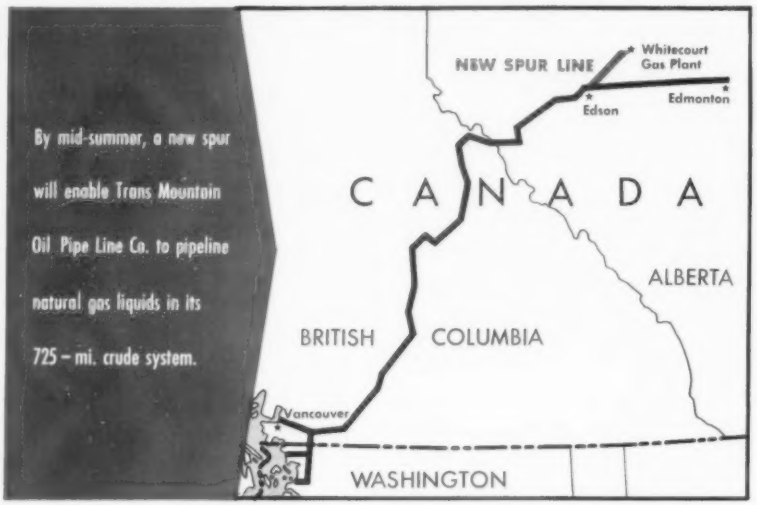
Fulton Banister Ltd., of Edmonton, is the contractor building the line for Hudson's Bay.

At Edson, pressurized storage facilities for about 160,000 b/d of the natural gas liquids are expected to be ready about the same time.

The new pipeline, its one pump station, and its tankage will cost about $1½-million.

The Edson terminal will be able to inject up to 17,000 b/d of natural gas liquids into the Trans Mountain system.

Trans Mountain would not say exactly where or to whom the natural gas liquids will be delivered.



Another kind of NGL movement in a crude line—by mixing with crude—was proven successful recently.

Last month, A. N. Horne, of Texaco-Cities Service Pipe Line Co., told the annual pipeline conference of API's Transportation Division of the success his company has had in operating an Oklahoma-Chicago mixed line for a little over a year.

Horne explained that in late 1957 the line was converted to combined crude and natural gas liquids service mainly by load rebalancing and addition of pump-station horsepower (PW—Mar.21'58,p44).

He pointed out that the system requires no special storage facilities because of the continuous—although fluctuating—flow of natural gas liquids into its mainline.

Transit time from Cushing to East Chicago is normally around 11 days.

Horne said, however, that operation of the line requires "considerable detail with reference to scheduling, coordination, synchronization, and operations.

"Volume fluctuations from the gasoline plants," Horne reported, "require frequent adjustments of the crude stream injected at Cushing to keep the mainline's throughput volume uniform. The connecting carrier [of natural gas liquids] advises of these variations as they occur."

The line's successful operation, Horne said, "indicates the feasibility and rather broad possibilities of moving a greater number of petroleum and natural gas liquids than has been done heretofore through conventional crude lines."

Either way, there are increasingly strong reasons for such movements of natural gas liquids in crude lines.

The progress in the technology of such movements, as applied by Trans Mountain and Texaco-Cities Service, is one reason.

But more basic are these:

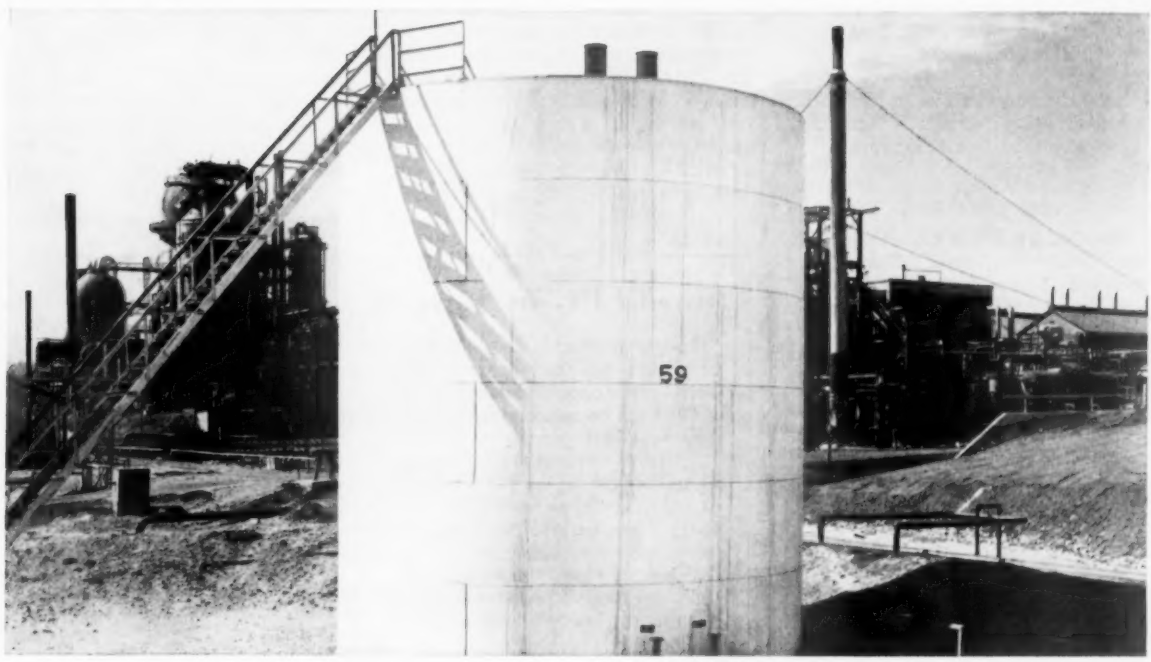
- There is an increasing demand for natural gas liquids. Demand for propane and butanes is gaining especially fast.
- There are crude lines in various parts of the U. S. and Canada operating below capacity, an uneconomical practice.

The Trans Mountain system is a good example of such crude lines. Trans Mountain shareholders were recently told that "your company . . . showed a loss for the year 1958 of $142,798 . . . compared with earnings of $8,305,785 . . . for 1957."

A good deal of Trans Mountain's 1958 troubles, of course, stemmed from the reduced use of Canadian crude in northwest U. S. refineries.

But even though Trans Mountain now reports that it will be moving a good deal more Alberta crude to Pacific Northwest refineries in the months ahead, the company feels that supplementary movements of natural gas liquids will be needed to restore it to a profit position.

THE PROTECTION LASTS WHEN YOU PAINT WITH DU PONT



Tank No. 59, Phillips Petroleum Company, Borger, Texas

PROOF: *This tank was last painted in 1939!*

One look at the picture above and you can see what severe conditions this tank is subjected to. Note the refinery processing equipment, including a cat cracker. This tank has been exposed to HF and SO_2 fumes, water spray and the toughest Panhandle weather. Yet the durable Du Pont finish has withstood it all for 20 years! Even the roof, which was painted at the same time, did not have to be repainted until 1956. Experience shows that for longer lasting economy and better appearance . . . specify Du Pont.

DU PONT PAINTS

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

What's New / IN TRANSPORTATION AND STORAGE

Tennessee Gas Pipeline Co. is slating the largest compressor-building program in its history, plus line extensions.

Cost: approximately $69-million.

The company will add 113,000 hp. through four new stations and enlargements of 13 existing ones—a horsepower increase of approximately 18%.

The added compressor horsepower will hike delivery capacity to more than 2.5-billion cu. ft. on average days and 2.9-billion cu. ft. on peak days. The increase will go to satisfy mounting requirements of present customers, and to supply gas to Midwestern Gas Transmission Co. Both firms are affiliates of Tennessee Gas Transmission Co.

Contracts also have been let for the laying of 201 mi. of pipe in Kentucky, Tennessee, and West Virginia.

•

The Federal Power Commission has approved Equitable Gas Co.'s planned $1.3-million expansion of natural gas transmission facilities in West Virginia and Pennsylvania.

FPC authorized Equitable to build 12.5 mi. of 16-in. loops to boost its system capacity by about 12-million cf/d.

•

British American Oil Co. Ltd., is starting construction of a $1.5-million marine terminal on Burrard Inlet near its Port Moody (Ont.) refinery.

The new terminal will handle coastwide shipping and packaged products shipped from the East. B-A's present dock will continue to serve other shipping.

•

Gustafson Oil will treble its present 100,000-bbl. storage capacity for light and heavy oils with completion of its Lake River marine terminal in Chicago. The new terminal, replacing Gustafson's existing facility, is scheduled to be in operation by July 1.

•

Russia claims another first in rockets—one which burrows a tunnel underground for pipe-laying.

If the claim is true, the Soviets have invented a device whose secret has eluded American inventors for years. Six months ago, in the absence of favorable response, engineers here dropped requests to inventors to develop such a contrivance.

The Russian rocket operates on liquid fuel and compressed air in its nose, according to "Magyar Nemzet," a Hungarian magazine. It said that first experiments produced "satisfactory results."

•

Public Service Co. of Colorado plans to use an abandoned coal mine near Denver for natural gas storage to assure reserve supplies for the city's peak winter demand.

The Leyden Mine is estimated to have a capacity of 3-billion cu. ft., and PSC estimates it can withdraw 210-million cf/d of gas. Peak daily demand last year—one of the city's mildest winters—was 480,900,000 cu. ft. Gas from the mine will supplement deliveries from Colorado Interstate Gas Co., which says its maximum delivery next winter will be 500-million cu. ft. daily.

Cores taken of rock strata above and below the coal seam suggest that the mine will serve as a tight gas seal.

A 5-mi. pipeline is being laid from existing gas facilities.

Total cost of the project is estimated at $5,217,000.

•

Texas Gas Transmission Corp., Owensboro, Ky., last week filed a request with the Federal Power Commission for an annual rate increase of approximately $7-million.

An application for a $5.4-million adjustment filed Apr. 30, prior to a gas price boost by one of the company's suppliers, was withdrawn. The company says its rate hike, proposed to become effective July 6, is necessary to cover the higher gas price.

More LPG by Barge to the Southeast

Barge shipments of liquefied petroleum gas by General Gas Corp. into its southeastern market in 1959 will be nearly double what they were last year.

This year the company will move 30-million gal. of LP-gas by barge to supply bulk plants in Georgia, South Carolina, and Alabama, the three states comprising its Eastern Division, a spokesman said. In 1958 its LPG barge deliveries to the area reached approximately 16-million gal.

The step-up has been achieved by accelerating runs from the Houston (Tex.) area through the intracoastal canal to its Bainbridge (Ga.) terminal. Also, the company has expanded its fleet and enlarged its storage capacity.

Operations began with one barge in early 1958. Three more were added early this year. A fifth will be added before winter in preparation for the seasonal upswing in domestic LPG consumption.

Present storage capacity at Bainbridge is 1-million gal. as compared with 720,000 gal. early last year when the terminal was activated.

"With our substantial storage capacity at Bainbridge and the fleet of barges," says Hal S. Phillips, president, "we now are able to cope with any severe weather conditions or other unusual situations which may require tremendous amounts of fuel throughout the Eastern Division on short notice."

General Gas feels that the problem of short stocks at the bulk plants, formerly caused by slow rail tankcar shipment, now has been "completely overcome."

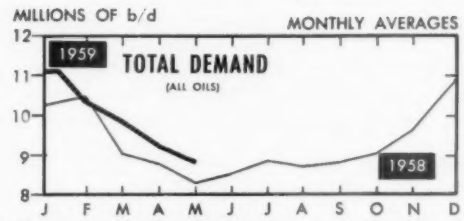
Phillips says truck delivery time from Bainbridge to any of the bulk plants is under five hours, and that customers usually live less than an hour's travel from the nearest plant.

The increasing acceptance of LP-gas as an internal combustion fuel on farms and in industry, and its growing domestic use, are the factors compelling faster and heavier deliveries.

The use of LP-gas as a fuel in heating devices to cure certain crops, such as tobacco, is expected to keep the agricultural demand high through the summer, the company says.

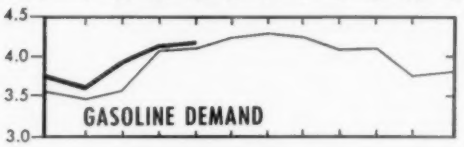
PETROLEUM WEEK'S

Fingertip Figures



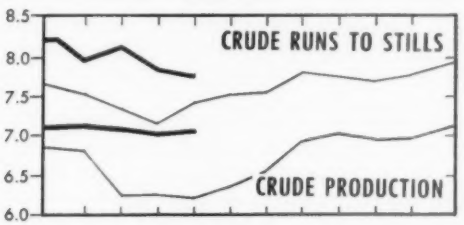
TOTAL DEMAND

Latest 4-week average	8.973
Year ago	8.191



GASOLINE DEMAND

Latest 4-week average	4.550
Year ago	4.079

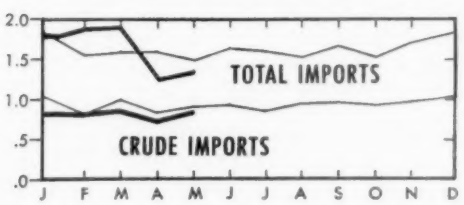


RUNS TO STILLS

Latest week	8.280
Previous week	7.888
Year ago	7.487

CRUDE PRODUCTION

Latest week	7.032
Previous week	7.203
Year ago	6.242

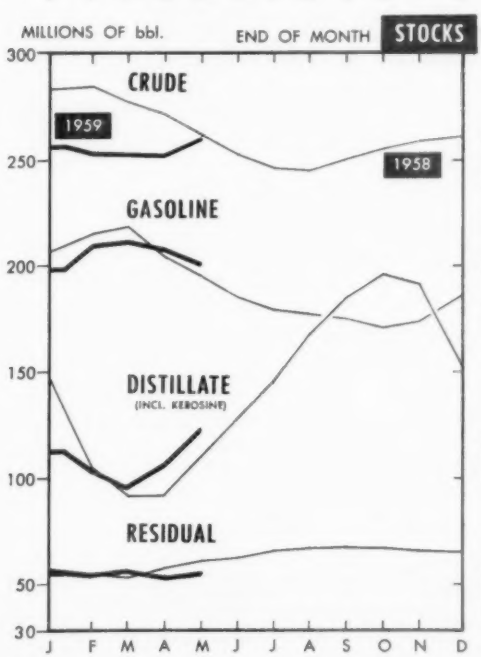


TOTAL IMPORTS

Latest week	1.384
Previous week	1.357
Year ago	1.226

CRUDE IMPORTS

Latest week	.857
Previous week	.825
Year ago	.754



CRUDE STOCKS

Week-ended 5-30	262.5
Previous week	262.3
Year ago	269.8

GASOLINE

Latest week	203.6
Previous week	203.1
Year ago	193.4

DISTILLATES

Latest week	127.5
Previous week	121.6
Year ago	115.3

RESIDUAL

Latest week	55.6
Previous week	54.7
Year ago	61.4

Refiners tossed caution to the winds last week by hiking runs 400,000 b/d to 8,280,000 b/d, despite pleas by many industry officials for restraint.

Stocks of all products felt the impact of the jump in refinery runs. Distillates, for example, gained almost 6-million bbl. —the greatest weekly gain all year. Refiners, who had begun accumulating distillate early in April, now are piling up stocks in earnest. Distillate stocks are 20-million bbl. higher than at this time last year.

The increase in gasoline output caused by the high runs resulted in a contra-seasonal rise in gasoline stocks.

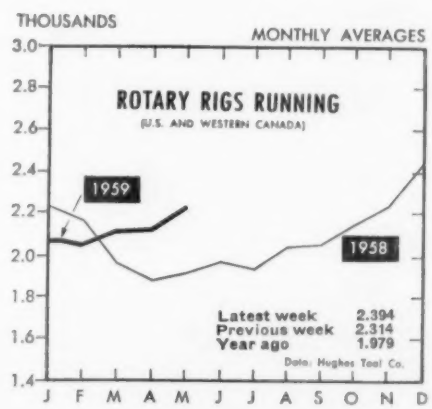
Gasoline production jumped to 29,415,000 bbl. for the week—the highest this year. And despite a relatively high gasoline demand, stocks rose.

Runs have been higher than necessary for some time, but recent reductions to a level of about 7.8-million b/d had caused some observers to predict a "correction" in the surplus gasoline situation by August. Meanwhile, prices have declined in the Gulf Coast refinery markets and in many consumer areas.

Unless refinery runs are returned to a lower rate, distillate stocks as well as gasoline stocks will be at excessive lends.

Gasoline stocks, at 203.6-million bbl., are well above the so-called "desirable" lend.

And if distillate stocks continue to increase at the present rate, they too will be way out of line by the time the distillate demand season starts next fall.



The Market Trend

Refiners Wince as Product Prices Fall

The markets that looked quite promising in early spring turned sour last week. There seems to be no stability in product prices. You are beginning to hear speculation about a new drop in prices for crude.

Name any area you want, and price declines predominate. Gulf Coast, East Coast, Mid-Continent, and Chicago prices all are at some point on the toboggan. Prospects don't look bright for an early reversal.

The slide in gasoline prices at the Gulf is typical of what's happening in many areas. When prices looked firm in early April, one major sneaked in a discount to his accounts in the Southeast. Another major quoted spot cargoes in May at 0.5¢ discount. A third "imported" some gasoline from the West Coast to the East Coast, rather than fill the requirement in the Southwest. By early June, confidence had withered.

On the Mississippi, you hear of "tough" quotes on gasoline and heating oils for shipments from West Memphis and Arkansas City. And the weakness on the river extends all the way to Minneapolis. At Chicago, ordinary heavy fuel is being exported to other refining centers in the Midwest—at discounts, of course.

At the Gulf, refiners are offering some attractive summer-winter supply contracts on heating oils, but the buyers haven't responded too actively. One hopeful sign, however, is that the Canadians apparently feel that prices have fallen low enough in the Caribbean to start their summer fills.

In the East, account grabbing is flourishing. You'll soon be hearing of a big Rhode Island account changing hands. In Brooklyn, a 10-million-gal. retailer is being wooed away from his long-time supplier.

The bright spot in the whole picture continues to be low-sulfur residual fuel oil. The product is in tight supply on the Great Lakes. It's firm in the Mid-Continent. And there even might be some export demand at the Gulf for foreign mills that require this quality fuel.

But low sulfur residual will not be enough to stem the tide if other products continue to weaken. Refiners say they look for a turn in gasoline prices "within 60 days." Unless it comes, crude prices may follow onto lower ground.

Avgas Prices Cut: Jersey Standard affiliates reduced their aviation fuel prices 0.75¢ a gal. across the board at refining locations in the Caribbean. Avgas has been in surplus in the Caribbean for some weeks now. New prices range from 13.25¢ for 73 clear up to 16.5¢ for Grade 115/145.

Bids on No. 6: The government got some low prices on a one-cargo requirement for bunker oil for July delivery. One offer in the Caribbean was $1.70 a bbl., 30¢ off posted. Another quotation was $2.15 a bbl., delivered into barges at New York harbor.

East Bloc Cuts: Even the Russian satellites are cutting prices. Gas oil bunkering prices were reduced last week $1.00 a ton at Rumanian ports. At ports in Yugoslavia, diesel bunkering prices were off by six to eight shillings.

The Market Place AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

All prices as of June 8

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal. except dollars per bbl. where $ is shown)

Western Hemisphere

U. S. Gulf Coast, cargoes
- **Gasoline, 98 oct prem** ..... **11.375↓-13**
- **Gasoline, 92 oct reg** ..... **10.25↓-11.5**
- **Kerosine** ..... **8.75-10↓**
- **Heating oil, No. 2** ..... **8.25-9.5↓**
- Gas oil, 48-52 d.i. 8.5-10.125
- Fuel oil, bunker "C" $2.00-2.10

Caribbean, cargoes
- **Avgas, Grade 100/130** ..... **15.25↓**
- Gasoline, 93 oct research prem 10.75-11
- Gasoline, 87 oct research reg 9.875-10.125
- Gasoline, 79 oct research 9.125
- Gasoline, 70-72 oct motor method 9
- **Kerosine** ..... **9↓-9.375**
- **Heating oil, No. 2** ..... **8.25↓-8.625**
- **Gas oil, 48-52, d.i.** ..... **8.5↓-8.875**
- Fuel oil, bunker "C" $2.00

New York Harbor, barges
- **Kerosine** ..... **9.65↓-10.5**
- **Heating oil, No. 2** ..... **9.5↓-10**
- **Fuel oil, No. 6** **$2.37**

Okla-Group 3, northern shpt., bulk
- Gasoline, 89 oct reg 11.5-12.25
- **Kerosine** ..... **9.875↓-10.25↓**
- **Heating oil, No. 2** ..... **8.75↓-9.25**
- Fuel oil, No. 6 ..... $1.60-1.80

Chicago, bulk
- Gasoline, 91 oct reg 11.5-11.75
- **Heating oil, No. 2** ..... **9.5↓-11.35**
- Fuel oil, No. 6 high sulfur 7.4-7.5

Los Angeles, rack
- Gasoline, 88 oct reg 12-12.65
- Diesel fuel, PS 200 ..... 8.5-11.25
- Light fuel, PS 300 ..... $2.80
- Heavy fuel, PS 400 ..... $2.15-2.35

Natural Gasoline, Grade 26-70
- FOB Group 3 ..... 4.5
- FOB Breckenridge, Tex. 4

LP-Gas
- Propane, Oklahoma (Group 3) 4
- Propane, Baton Rouge 4.625-5

Pennsylvania Lubes
- Bright stock, 25 p.t. 22
- 200 vis. neutral, 25 p.t. 21

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent 95 v.i. 23-24
- Neutral, solvent, 200-210 vis 19.5-20.5

Gulf Coast Lubes
- Bright stock, solvent, 95 v.i. 24
- Neutral, solvent, 200 vis 20.5

Eastern Hemisphere

Singapore (Pulau Bukom), cargoes
- Avgas, grade 100/130 ..... 17.25
- Gasoline, 79 oct research 9.75
- Kerosine 10.75
- Gas oil, 48 d.i. minimum 10.375

KEY PRICES—CRUDE OIL

(2¢ differential per deg., of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, 36.0-36.9 ..... $2.77-2.97
- North Dakota, 36.0-36.9 ..... 2.62-2.87
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9 ..... 3.50
  - Gulf Coast, Upper & Lower, 26.0-26.9 ..... 2.92-3.22
  - West Texas, sweet, 36.0-36.9 ..... 3.00
  - West Texas, N. M., inter., 36.0-36.9 ..... 2.93
  - West Texas, N. M., sour, 32.0-32.9 ..... 2.71
  - East Texas, flat 3.25
  - Mirando, 28.0-28.9 ..... 3.31
- Illinois Basin, flat 3.00
- Pennsylvania Grade, Bradford dist., flat 4.25
- California, Signal Hill, 21.0-21.9 ..... 2.50-2.54†
- North Louisiana-Arkansas, 36.0-36.9 ..... 2.77-3.02
- Wyoming, sweet, 36.0-36.9 ..... 2.85-2.90
- Wyoming, sour, 32.0-32.9 ..... 2.63-2.71

Canada (flat prices, at the well)
- Acheson-Stony Plain (Alta.) $2.47
- Leduc-Woodbend (Alta.) 2.53
- Redwater (Alta.) 2.42
- Daly (Man.) 2.21
- Smiley (Sask.) 2.18

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 47.0-47.9, Tucupido $3.34
- San Joaquin, 41.0-41.9, Puerto la Cruz 3.10
- Oficina, 35.0-35.9, Puerto la Cruz 2.78-2.80
- Tia Juana, Medium, 26.0-26.9, Amuay 2.30
- Bachaquero, flat, Las Piedras 1.73-1.88
- Tarra, 38.0-38.9, San Lorenzo 2.83
- Lagunillas Heavy, flat, Cardon 2.10

**Differential per deg. of grav. varies.*

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabia, 34.0-34.9, Ras Tanura $1.89-1.90
- Safaniya, 27.0-27.9, Ras Tanura 1.50
- Iran, 34.0-34.9, Bandar Mashur 1.86-2.04
- Iran, 34.0-34.9, Abadan 1.81
- Iraq, 35.0-35.9, Fao 1.80
- Kuwait, 31.0-31.9, Mina-al-Ahmadi 1.67
- Qatar, 41.0-41.9, Umm Said 2.05
- Neutral Zone, Burghan, 23.5-24.4, Mina Saud 1.51
- N. Zone, Eocene-Ratawi, 20.5-21.4, Mina Saud 1.38

Middle East, Eastern Mediterranean
- Arabian, 34.0-34.9, Sidon $2.27
- Iraqi, 36.0-36.9, Tripoli, Banias 2.31

Far East, Cargoes, FOB Lutong, Sarawak
- Seria Light, flat $2.57

KEY TANKER RATES

(Last paid, per long ton, single voyage)

U. S. Gulf-New York, clean ..... (USMC)—22½%) $2.21
U. S. Gulf-New York, dirty ..... (USMC—35%) $1.85↓
NWI-USNH, dirty ..... (USMC—62½%) $1.01
NWI-UK/Cont., dirty ..... (Scale—30%) 22/9*
Persian Gulf-UK/Cont., dirty ..... (Scale—70%) 20/10*
Persian Gulf-USNH, dirty ..... (USMC—75%) $3.18

**Sterling*

DEPT/Marketing

Same Old Problems Face Researchers

Despite much progress, market researchers in the oil industry are still beset with a host of problems that continuously challenge them to improve their techniques.

Delegates to the World Petroleum Congress last week were told that the "greatest opportunity" for market research lies not merely in providing information for marketers, but in the direction of problem-solving.

But in both tasks, market researchers face stiff problems. According to John W. Boatwright and Blaine Cooke, of Standard Oil Co. (Ind.), market researchers are continuously sharpening the "methodology" of social scientists—economists and psychologists, mainly—to fit their own particular requirements.

In the analysis of consumer markets, oil researchers face two main problems: setting the boundaries of market areas, and the fact that the products with which they deal are "minor" complements of products that are basically more significant to consumers.

"We may speak of the 'New York market' for motor gasoline," said Boatwright and Cooke. "Yet where are we to circumscribe this market—at the city limits of the City of New York? Somewhere in New Jersey, Connecticut, and Long Island? Or perhaps at the city limits of Biddeford, Me., and Philadelphia, Pa.?"

Market determination is also complicated by the consumer-mix within any one market area—cars, trucks, buses, and outboard motors comprise different markets.

The two also noted that gasoline, lubricants, and heating oils do not themselves have the inherent appeal that is enjoyed by the products they serve—cars and homes. It is because of this "minor" role of gasoline, for example, that market research has yet to produce a "fully persuasive theory of consumer behavior in the motor gasoline market."

However, Boatwright and Cooke asserted reassuringly, "Market researchers have tended to accept the time and money costs of probability sampling," thus enabling them to control more effectively the sampling errors encountered in consumer surveys.

Other market research difficulties involve the usefulness of the market-share concept and the application of accounting to analysis of distribution costs.

Market share is simply the proportion of one company's sales to the total market volume. But what do you do once you know market share? "It seems to be impossible to assign market share an economic value," said Boatwright and Cooke, and yet market researchers continue to spend a lot of time and effort trying to determine market share.

With distribution-cost analysis the problems are just reversed: marketers know what to do with it, but they're not sure how to get it. They know that this analysis would help "to measure the distribution of effort" in marketing. But "distribution cost analysis inescapably involves a formidable burden of computation," said Boatwright and Cooke.

Still more difficulties are encountered in attempting to probe the future with reliable forecasts.

Two principal techniques are used: extrapolation, in which, for instance, the gasoline demand trend itself is projected into the future, and the "building-block" procedure, in which components such as population, car usage, income, etc., are predicted and then combined into a total demand estimate.

"Neither method has produced results of such consistent reliability as to admit complacency," said Boatwright and Cooke. "Specifically, sales forecasts have tended to be grossly wrong at the very points at which a rough, directional sort of accuracy is most to be desired—namely, the turning points in the sales curve."

Even at the service station level, market researchers have difficulty predicting volume, because "few of the significant variables turn out to be simple. 'Traffic,' for example, is a complex mixture of speed, direction, truck-car composition, controls, number of lanes, turn potentials, etc."

But, whatever the problems, "the challenge to research in marketing is self-evident: can it produce the innovational concepts which a marketing era demands?"

Boatwright and Cooke underlined the fact that "the crucial problem . . . [of] American business enterprise . . . is the problem of marketing." It remains for marketing research to resolve this problem by applying to marketing the new tools—operations research, experimental designs, electronic data processing—that are available.

Newest State Mirrors U.S. Growth

Major marketers are taking a new look at the land of palm trees and pineapples now that statehood has been granted to Hawaii. At least one company, Texaco Inc., has announced that it expects to market in Hawaii for the first time.

Four other companies (Tidewater Oil Co., Standard Oil Co. of California, Shell Oil Co., and Union Oil Co.) have been marketing in the Islands for many years.

Construction workers are busily erecting a 32,000 b/d refinery in Hawaii for California Standard. Although the refinery is expected to return only "marginal" profits in its early years of operation, Standard foresees a good return in the long run (PW—Oct.24'58,p28).

For the past four years, the Hawaiian market has been climbing by about 15% a year. Total demand is now estimated at 45,000 b/d.

Marketing in Hawaii, says California Standard (Hawaii's chief marketer), is not very much different from marketing on the mainland. California Standard admits that there are 2,500 mi. of ocean between San Francisco and Hawaii. But 2,500 mi. by ocean tanker, it says, is easier and more economical than 800 mi. by tank car and truck into the remote hills of Utah. As a matter of fact, pump prices are higher in the Great Basin of Utah than they are in Hawaii, a company spokesman points out.

Furthermore, the population on the islands presents no peculiar marketing problems. Even though Hawaii possesses a mixture of Japanese, Filipinos, Chinese, and Polynesians, the islanders are thoroughly Americanized when it comes to using gasoline and other petroleum products. As a result, California Standard has found that the same appeals that attract most mainland Americans also attract Hawaiians.

In its ads, it occasionally resorts to a palm tree or a guitar motif, but generally the consumer appeals are identical with those used in California.

There is, of course, a proportionate-

ly lower demand for heating oils in Hawaii than on the mainland. (Honolulu's average minimum temperature is 69 degrees.) But for other products, Hawaiian demand is supported by a rising per capita income that closely parallels increases enjoyed by other U. S. citizens.

More than a half-million people reside in Hawaii, substantially more than live in such states as Vermont, Delaware, Wyoming, or Nevada. By and large, their occupational characteristics mirror those found on the mainland.

For example, about 17% of the Hawaiian population are in the professional or managerial class. On the mainland, the figure is 19%. In Hawaii, sales and clerical workers comprise almost 20% of the working force, which is just slightly higher than the rate in the rest of the U. S.

Marketing in Hawaii is simplified by the heavy concentration of urban residents. The 1950 census showed that almost 70% of the people live in towns or cities.

The biggest petroleum market in Hawaii is the island of Oahu. Honolulu itself, on Oahu, accounts for 71.9% of the urban population.

What's New
IN MARKETING

Service station operators in Seattle are threatening a temporary shutdown to protest the refusal of major oil companies to negotiate with the Washington Gas Dealers Assn. on wholesale prices.

More than 100 independent dealers have appealed to Gov. Albert D. Rossellini to arrange a meeting with the major oil companies involved. The shutdown, the dealers feel, would focus attention on the necessity for such a meeting to curtail the price wars that have plagued most of the state for the past year.

•

The Federal Trade Commission warned last week that it is ready to crack down on advertising that misrepresents automobile battery guarantees.

According to FTC investigation of consumer complaints, many battery ads imply unconditional guarantees, while actual guarantees are "hedged by conditions and limitations . . . lessening the guarantor's obligation as the months of battery use pass."

If any seller refuses to abandon such erroneous advertising, however, he will face "speedy formal action" by FTC.

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DEPT/Personals

W. K. WARREN has been elected chairman of Transwestern Pipeline Co., Houston. Warren is also chairman and chief executive officer of Warren Petroleum Corp., of Tulsa, and a director and member of the executive committee of Gulf Oil Corp., Pittsburgh. **John R. McMillan,** president of Monterey Oil Co., Los Angeles, has been elected vice-chairman of Transwestern. At the same time, **J. R. Butler** was named chairman of the executive committee, and secretary and treasurer of the company.

W. K. Warren

R. C. McCurdy

RICHARD C. McCURDY has been elected a member of Shell Oil Co.'s executive committee. He is also president of Shell Chemical Corp. and a director of Shell Oil.

W. W. KLEIN and **K. L. KIPP** have been named senior research engineers, and **D. R. Jones** and **K. H. Kilgren** group supervisors, for California Research Corp., a subsidiary of Standard Oil Co. of California. Klein, with Cal Research since 1955, will be concerned with special instruments development in the geophysics development division at the La Habra (Calif.) laboratory. Kipp, with the research subsidiary since 1947, will be in the engine fuels division at the Richmond (Calif.) lab, and Jones, with Cal Research since 1944, will be group supervisor of that division. Kilgren will be supervisor on natural gas processing in the reservoir mechanics and producing technical service division at La Habra.

HAROLD LONGWORTHY becomes field representative in Venezuela for Tennessee-Venezuela, S.A., Union Petrolera Venezolana, C.A., and Monsanto Venezuela, Inc., which have joint oil and gas interests there. Longworthy's offices will be in Maracaibo. He has been field representative in eastern Venezuela for International Petroleum Co., Ltd., since 1954. Tennessee-Venezuela is operated by Tennessee Gas & Oil Co., a division of Tennessee Gas Transmission Co.; Union Petrolera Venezolana is a subsidiary of Union Oil & Gas Corp.; and Monsanto Venezuela is operated by the Lion Oil Division of Monsanto Chemical Co.

W. M. LUTHY is the new manager, and **H. G. Bagnall** assistant manager, of the producing department of Canadian Oil Companies, Ltd. Luthy was formerly development manager of that department, and Bagnall was operations manager. Both men will continue to make their headquarters in Calgary.

NORMAN F. TIETZE moves up to general superintendent of products pipelines in the supply and transportation operations department of Standard Oil Co. (Ind.), with offices in Chicago. He succeeds **Oscar A. Abbey,** who is retiring. **H. W. Wilker** succeeds Tietze as division manager of the Twin Cities pipeline division, with headquarters in Minneapolis. **C. G. Weibel,** formerly engineer of the pipelines division in Minneapolis, succeeds Wilker as division superintendent there. **H. I. Johnson,** formerly with Indiana Standard in Park Forest, Ill., succeeds Weibel.

J. J. ASHLEY becomes superintendent of Service Pipe Line Co.'s Joliet (Ill.) district. He succeeds **J. W. (Mac) McFarland,** who is retiring after 36 years with the company. Ashley was formerly district superintendent at Pauls Valley, Okla. Service Pipe's Oklahoma division will be consolidated into two other districts, and Ashley will not be replaced.

L. C. Kemp, Jr.

F. H. Holmes

FREDERIC H. HOLMES becomes vice-president in charge of the refining department of Texaco Inc., and **L. C. KEMP, JR.,** succeeds him as vice-president of the research and technical department. Kemp has been vice-president in charge of the petrochemical department, domestic. **William P. Gee,** vice-president in charge of the petrochemical department, foreign, will also be in charge of domestic petrochemicals. Holmes was general superintendent of Texaco's Port Arthur (Tex.) refinery from 1945 to 1950. He was made assistant general manager of the refining department in 1953, and was elected vice-president in 1954. Kemp joined Texaco as a research chemist. In 1955, when Texaco formed its petrochemical department, Kemp was appointed general manager. He was elected vice-president in 1957. Gee was named president of Texas-U. S. Chemical Co., joint subsidiary of Texaco and U. S. Rubber Co., in 1954. He held that position until early this year, when he was elected vice-president in charge of Texaco's foreign petrochemicals. The three men will be headquartered in New York.

L. R. KUMP has been promoted to coordinator of trade relations for Continental Oil Co. with offices in Houston. He succeeds **J. L. Wait,** who is retiring. In his new position, Kump will serve as a direct contact between Conoco's marketing headquarters in Houston and its dealers and jobbers throughout the United States. Kump was most recently manager of marketing for Conoco's Rocky Mountain region, with headquarters in the company's Denver office.

L. R. Kump

R. Girdler

REYNOLDS GIRDLER has been elected vice-president of Sinclair Oil Corp., New York. He is Sinclair's director of public relations and advertising. Girdler joined the company in 1952.

TOM E. COOK is light oil sales manager in a new department created by American Petrofina Co. of Texas, in Dallas, to combine the responsibilities of the wholesale, supply and distribution, and distributor sales functions. **Earl N. Bunn** has resigned as manager, distribution sales, and will enter a Fina jobbership in Springfield, Mo. **F. W. Haney, C. D. Johnson,** and **Robert E. Eustice** are new assistants to Cook. Haney was named distributor sales manager; Johnson manager, supply and distribution; and Eustice manager, wholesale sales.

T. E. Cook

H. F. Elkin

HAROLD F. ELKIN has been appointed engineering consultant to coordinate all measures for the control of air and water pollution for Sun Oil Co., Philadelphia. He is associated with Sun's research and engineering department, where he has been sanitation engineer since 1954. Earlier this month, Elkin was appointed one of two representatives from the petroleum industry to serve on the National Technical Task Committee on Industrial Wastes.

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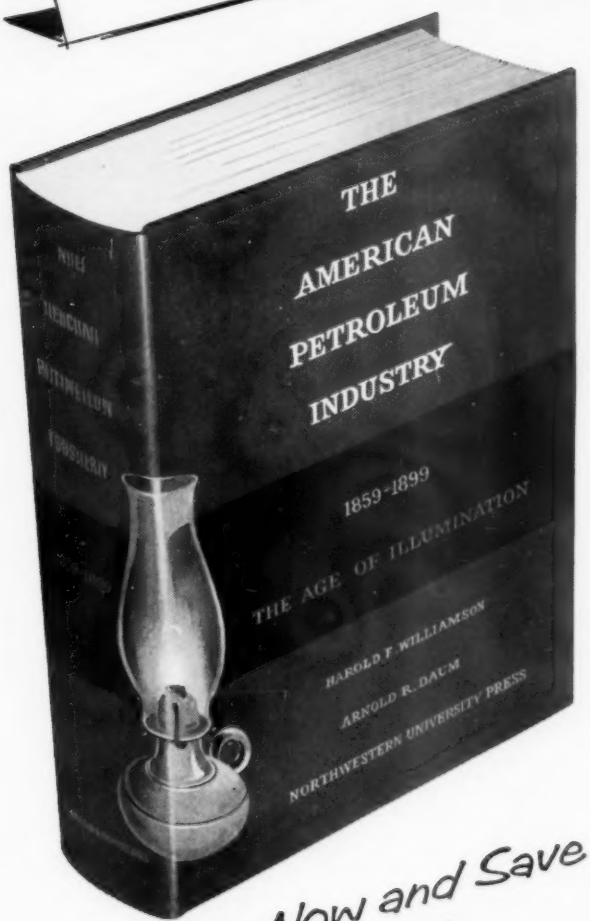

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PETROLEUM WEEK REPRESENTATIVES

Atlanta 3 — Douglas C. Billian, 1301 Rhodes-Haverty Bldg., Jackson 3-6951

Boston 6 — Donald R. Thompson, 350 Park Square Bldg., Hubbard 2-7160

Chicago 11 — Edward A. Callahan Jr., H. Sherman Davis, 520 North Michigan Avenue, Mohawk 4-5800

Cleveland 15 — J. E. MacArthur, 1164 Illuminating Bldg., 55 Public Square, Superior 1-7000

Denver 2 — J. W. Patten, Mile High Center, 1740 Broadway, Alpine 5-2981

Houston 25 — D. O. Hanson, 724 Prudential Bldg., Jackson 6-1281

Los Angeles — Peter S. Carberry, 1125 W. Sixth St., Huntley 2-5450

New York 36 — Donald R. Thompson, 500 Fifth Ave., Oxford 5-5959

Philadelphia 3 — W. A. Potter, 6 Penn Center Plaza, Locust 8-4330

San Francisco 4 — William C. Woolston, 68 Post Street, Douglas 2-4600

Tulsa 3 — J. A. Hartley, 909 Enterprise Bldg., 522 South Boston, Gibson 7-5594

England, London E. C. 4 — E. E. Schirmer, McGraw-Hill Co., Ltd., 95 Farrington St.

DEPT/Service & Equipment Companies

DR. RICHARD A. GEYER has been named manager of the gravity department of Geophysical Service, Inc., with offices in Houston. He has been chief geophysicist for the gravity department since 1954. Geyer succeeds **F. E. Romberg,** who is now chief geoscientist for the new geosciences and instrumentation division of GSI's parent, Texas Instruments Inc. In his new position, Geyer will assume responsibility for the final interpretation of data obtained by GSI gravity and magnetic field parties throughout the world.

R. A. Geyer

W. L. Sammons

WILLIAM L. SAMMONS is the new general sales manager for B-I-F Industries Inc., Providence, R.I. He also directs four groups of process systems engineers, headed by **Milford E. Rogers** as manager of utilities sales; **Paul A. Coffman,** manager of industrial sales; **Rudy P. Lowe,** manager of petroleum and petrochemical sales and **Charles G. Haire,** manager of national accounts. In addition, he directs departments concerned with repair parts and export sales. Sammons has been assistant to the president of B-I-F for the past two years.

JAY GOULD has joined Baker Filtration Co., El Monte, Calif. as general manager of the company's new oil field division. He was most recently in the Cosaco division of Perfect Circle Corp. He has also been with Iraq Petroleum Co. as assistant general manager, and with the Baash-Ross Division of Joy Mfg. Co. **Gordon Smith** will be director of finance and administration of the new division, and **Joe Scott** will be director of production. The executive operating committee of the division consists of Smith, Scott, Gould, and **Bill Baker,** president of the company. **J. C. Velvin, Jr.,** Velvin Industrial Products Co., Midland, Tex., has been named Baker representative in the West Texas-New Mexico area.

BRANCHLAND PIPE & SUPPLY CO., Huntington, W. Va., is a new distributor for Jones & Laughlin Steel Corp.'s oil country tubular products, standard and line pipe, and wire rope products. Branchland will distribute J&L's products from its headquarters in Huntington and its branch store in Paintsville, Ky.

JACK H. RAGSDALE has been elected vice-president of Caran Engineering Corp., San Antonio. He has served as well logging manager of the South Texas-Gulf Coast district of the Caran companies since he joined them in 1951.

B. J. TERRELL, Stewart & Stevenson Service, Inc., is the new chairman of the South Texas section, petroleum group, of the American Society of Mechanical Engineers. Other new officers of the section are: **Thomas Pennington,** Humble Oil & Refining Co., vice-chairman; **John Beson,** McEvoy Co., secretary-treasurer; **Marvin Jones,** Cameron Iron Works, Inc., program chairman; and **Samuel L. Collier,** Mission Mfg. Co., membership development chairman.

CHARLES F. LIBERTINO has joined Oil Base, Inc., manufacturer of oil-base drilling products. He is currently being trained at the company's Compton (Calif.) plant. After his training, he will be given a foreign assignment with Oil Base de Venezuela, C.A., a sales subsidiary for Black Magic and the company's other oil-base drilling products. Libertino was formerly a drilling engineer for Texas Petroleum Co. in Colombia.

HARRY BARKER becomes assistant to the factory superintendent of Stewart & Stevenson Services, Inc., Houston. He has been in charge of the Houston procurement office of the U.S. Corps of Engineers since 1957.

H. Barker

P. A. Wick

PAUL A. WICK has been elected secretary of Rockwell Mfg. Co., Pittsburgh. Wick, with Rockwell since 1946, was named assistant secretary in 1948, and has acted as assistant to the president since 1951.

CLYDE M. LACKEY has joined the Franks division of Cabot Shops, Inc., Pampa, as sales manager. He was previously in the sales division of Cardwell Mfg. Co., Houston. Before that, he was associated with Buda Engine Sales & Service, in Kansas.

E. W. VAN NESS and **MARK WORTHINGTON** have been elected vice-presidents of Ralph M. Parsons Co., engineers and constructors, Los Angeles. Van Ness is manager of the petroleum and chemical engineering division, and Worthington is manager of the cost engineering division. Van Ness, with Parsons since 1946, was formerly associated with Tidewater Oil Co.;

Worthington, with Parsons since 1945, was formerly with Consolidated Steel Corp.

J. T. FURRY has been appointed sales representative in the Midland (Tex.) area for the diamond equipment division of Hycalog, Inc. He was formerly district sales manager at Midland for Great Lakes Petroleum Services.

J. T. Furry

F. M. Gibbons

FRANK M. GIBBONS has joined Commonwealth Services, Inc., as supervisor of oil refining and petrochemical consulting activities, with offices in Houston. He was formerly project manager for refinery engineering and construction at Fluor Corp., Ltd. He has also been a project engineer for Bechtel Corp.

WILLARD H. LAND joins Maloney-Crawford Tank & Mfg. Co., Tulsa, as vice-president and general sales manager. He was most recently division sales manager in Houston for Parkersburg Rig & Reel Co. He has also held managerial posts for Parkersburg in Shreveport, West Texas, and New Mexico. **Glen Rader,** formerly sales manager for Maloney-Crawford, will remain with the company as vice-president and special representative in the newly expanded sales division.

JOHN L. ROSS has been appointed a petroleum engineer in the oil loan division of the Fort Worth National Bank. He was formerly a division reservoir engineer for Gulf Oil Corp., in Ft. Worth.

R. H. Pollakowski R. A. Hammontree

R. H. POLLAKOWSKI is the new salesman at Borger, Tex., and **R. A. HAMMONTREE** at Lake Charles, La., for Jones & Laughlin Supply Division. Pollakowski joined J&L at Reed City, Mich., in 1950. He transferred to Borger as storeman in 1952, and later that year became store manager there. Hammontree started with J&L as a storeman at Haynesville, La., in 1951, and was promoted to store manager there in 1952.

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Foster Drilling Co., is going out of business and has commissioned Wayne Cook Associates, Inc. to sell all of their rigs, trucks, trailers, pipe and casing, two way radio system, shop and other equipment at public auction to the highest bidders.

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15 TRUCKS incl. 1952 Int. West Coast Sp., 200 Cummins eng., Braden winch, 1200x24 tires; 1956 Ford F700 Tandem, oilfield rigged, Tulsa winch, 5th wheel; 1956 Autocar DC10464 tandem, 200 Cummins eng., oilfield rigged, Braden winch, Timken SQDD rearends, rolling TB, 5th wheel; 1955 White 2464 tandem, oilfield rigged; 1954 Chev. 6400 rigup trk., Tulsa winch; 1953 GMC 640, 2 speed rear axle, 5 sp. trans., Braden winch, 5th wheel, Leland dovetail bed; 1955 GMC 350, winch; 1954 Int. R185 and others.

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COMMON CARRIER PIPELINES should not pay dividends to their shipper owners, according to the Democratic majority report of the House antitrust subcommittee on Elkins Act consent decrees.

In other words, Rep. Emanuel Celler of New York and the other majority members of the subcommittee reason that the pipeline systems should be operated as a service provided to all shippers at cost. Presumably, any money left in the till after operating costs are paid would be refunded to shippers or plowed back into the business.

The highly efficient oil pipeline network in the U.S. has been developed through many technological advances that have lowered the cost of transporting oil considerably. Without some incentive provided by profits, limited as they are by law, such a system of efficient transportation would not have been developed.

AS A RESULT, oil pipeline tariffs have steadily declined over the years, a reduction in cost that is unique in the transportation field.

Rep. Celler wrote in the report: "Cost advantages of pipelines over other forms of land transportation are such that no other method of carriage can be competitive." Those advantages just didn't happen by accident. They are the result of industry ingenuity—the willingness to make investments in progress.

If Rep. Celler's recommendations should be followed, the end of the efficient common carrier pipeline systems can be predicted. And what would happen then? Each shipper of oil would have to provide his own transportation of oil separately, an inefficient method that could lead to but one result: The cost of transporting oil would go up beyond reason.

Pipeline ventures are not such profitable undertakings as the majority report hints. For one thing, the consent decree limits dividend payments to 7% of valuation. Also, even the largest integrated oil companies have found in recent years that the costs of building pipeline systems are too great to undertake them alone. A combination of seven companies built the Rancho system; six pooled resources to build the Four Corners line; and four invested jointly in the Texas-New Mexico line.

IT'S NOT TOO HARD TO IMAGINE that if one congressional group thinks pipeline companies should operate as nonprofit services, then perhaps the same may be said for refiners and other branches of the industry.

And we wonder: If pipelines should serve without a profit, would those who advocate such a move be willing to do likewise?

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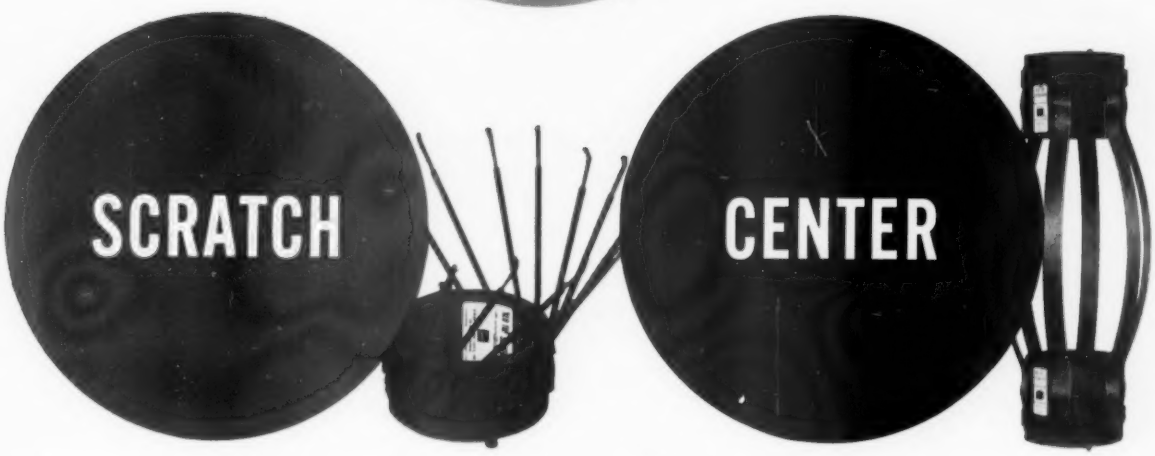

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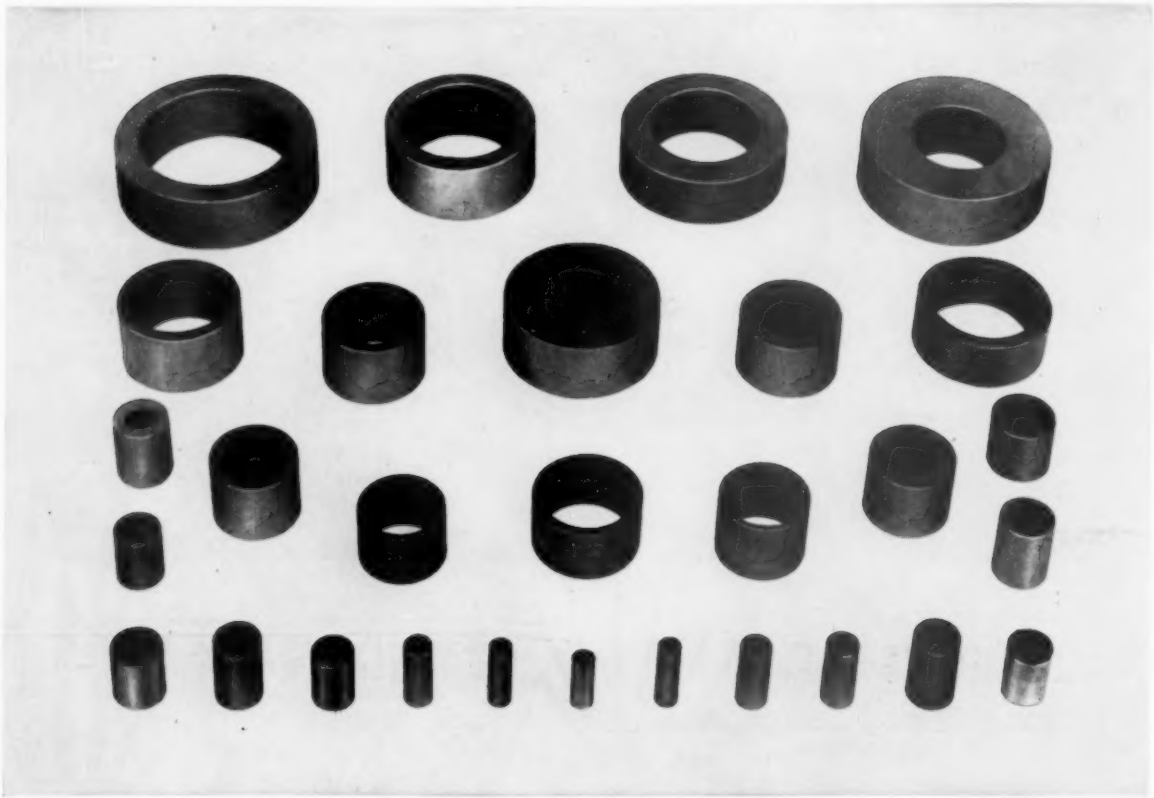

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